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ABSTRACT

The major goal of this research was the development and validation of cultural models of dental health practices. The specific objectives were to determine if 3 cultural groups (American Indians, Mexican Americans, and Anglo Americans) differ in the dental health hygiene indices, characteristics, psychological factors, or social factors; to develop explanatory models of dental health practices; and to cross validate the models. Two kinds of information were obtained--personal interviews and dental examinations. Data were collected during Spring 1972 for the first year phase and during Fall 1972 and Spring 1973 for the validation. The information was summarized and analyzed by descriptive statistics, analysis of variance, and path analysis. Six separate models were discussed and analyzed. It was found that similarities exist in the models developed across dimensions of ethnicity and residential groupings, and that financial factors and "symptomatic orientation toward dental care" were the greatest determinants of dental care behavior. Copies of the interview questionnaire and the dental examination form were included. (PS)

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Final Report

Dental Health Care Models of Southwest Cultures

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PART ONE

Introduction and Review of the Literature

1.01.00 Introduction

Dental care practices among the three primary cultures of the Southwest, Chicano (Mexican American, Spanish American), American Indian, and Anglo, are believed to be greatly dissimilar. However, the paucity of cross cultural studies precludes any positive statements regarding the determinants of such differences, or if they, indeed, exist. Thus, little knowledge exists relative to improving dental practices of populations indigenous to the American Southwest.

1.01.01 Goal: The major goal of this research was the development and validation of cultural models of dental health practices. The purposes of model building are twofold. The first is to provide an understanding of the interrelationships of sets of variables and their effect (individually and jointly) on the dependent variable(s) of interest. In this case, the dependent variables are those associated with dental health status. Secondly, model building should furnish sufficient information to allow prediction from independent variables to dependent.

1.01.02 Objectives and Hypotheses: The specific objectives for the proposed research were to: (1) determine if the three cultural groups differ in any of the dental health hygiene indices, the demographic characteristics, the psychological factors, or social factors; (2) develop explanatory models of dental health practices for each of the cultural groups relating dental indices to the cultural factors; and (3) cross validate the models using new data.

General experimental hypotheses tested were:

1. Differences will exist between the three cultural groups studied in regard to: (a) dental health/hygiene indices, (b) demographic characteristics, (c) psychological factors, and (d) social factors.

2. Based on these differences explanatory models can be developed for each of the cultures analyzed which will account for significant proportions of the variance of dental health practices.

3. When cross validated, these models will still be valid.

1.02.00 Review of the Literature

Dental care studies fulfill an important function, for it appears that those factors which prevent the utilization of dental services for some groups also preclude the entrance of the same groups into the mainstream of American life. In the past, this function has generally been served by research of medical care behavior. However, recent studies indicate that the previous differentials that have existed in medical care are diminishing.

One of the first conceptual models of health behavior was suggested by Kegeles (1963). Kegeles hypothesized that an individual's health behavior is predicated upon: (1) the belief that he is susceptible to the disease in question; (2) the belief that the disease, if contracted, would have deleterious effects for him; (3) his perception of the efficacy of actions available to him for the prevention of the disease; and (4) his belief that the steps to prevention are not more damaging than the disease itself. However, Kegeles' model has not been able to withstand careful investigation with respect to dental behavior. Kegeles (1970) himself has since stated that, "there are some questions in our minds as to whether we have merely described the phenomena in our conceptualization rather than formulated any kind of predictable scheme."

Butler (1967) has identified a number of weaknesses in Kegeles' model: (1) it relies upon the questionable assumption that individuals widely perceive dental disease as potentially serious; (2) the model does not sufficiently explain both illness and health behavior and it assumes that individuals employ a totally rational approach to their dental health; (3) it suggests that differences in the availability and accessibility of dental services have no effect on the demand made for them. Butler advances the idea that variations in the availability and accessibility of dental care may influence the individual's dental care habits and attitudes.

In addition, Tash, et. al. (1969) failed to find supporting evidence for the Kegeles' model. Their data indicate that respondents who perceived themselves as possessing low susceptibility to dental disease visited the dentist preventively more frequently than those respondents who perceived themselves as being highly susceptible. They assert that such a result may be attributed to meanings ascribed to dental care and disease prevention. Namely, those who practice preventive dental care feel they are

avoiding dental disease, and thus do not believe themselves to be as susceptible. Such an argument seems to indicate that the perceptions that Kegeles suggests influence behavior are, instead, the results of behavior. In a broader sense, it may be argued that attitudes about dental care are results of, rather than precursors of, behavior. Furthermore, because the susceptibility variable measured by Tash et. al., was based upon an individual's response to a question regarding his future dental state, it seems that the individual's perception of susceptibility was not being measured as much as was his belief in the efficacy of his present level of dental care. Thus, the results seem entirely reasonable. Tash et. al. also found that belief in the benefits of taking preventive dental action did not lead to a statistically significant difference in seeking preventive care although a trend supporting the hypothesis was present.

1.02.01 Dental Health in the United States: Nearly everyone in the United States develops some dental caries at some time. Scherp (1971) has estimated the repair cost at $2 billion annually and suggests that to completely repair the damage caused by caries throughout the country would cost $8 billion more annually than is now spent. Noting that caries is primarily a disease of young people, Scherp points to recent experience of the U. S. Army as a representative picture of the problem. He reports (p. 1199) that, "Army surveys indicate that every 100 inductees require 600 fillings, 112 extractions, 40 bridges, 21 crowns, 18 partial dentures, and one full denture."

Shira and Cassidy (1972) report that men entering the Army required a minimum of 8.2 hours of professional care per man to correct existing pathoses. Friedman (1966) notes that despite some major accomplishments, (p. 260) "the oral health of the population is probably not much better today than it was fifty years ago." Greene (1972, p. 1073) presents statistics to document the severity of dental illness in the United States, especially among children and young adults. He suggests that the determination of those who get dental care and those who do not is too frequently based upon cultural and economic factors, by accidents of geography, education, and income and not on the basis of personal preference or of relative need.

According to Greene (p. 1074), " . . . blacks get less care than whites; rural families get less care than urbanites; high school drop-outs get less care than the college-educated; the elderly, with their reduced incomes and increased health problems, get less care than the still-employed middle-aged; moderate income groups get less care than the well-to-do; and the poor get less care than anyone."

In addition, Greene notes (p. 1074) that, "Sixty-four percent of the poor children in this country have never been to a dentist even once in their lives." Moen (1954), mentioned earlier, reports (p. 74) that, "About three-fourths of all children under five years of age, and nearly one-fourth of all children in the age group 5 to 9, had never been to a dentist. About 1.4 percent of the family members 20 years of age and older indicated that they had never been to a dentist."

Fulton (1952) analyzed the dental records of 3,009 Illinois preschool and 233 Cleveland school children and found a slowing down of caries activity at 66 months of age, a peak at 90 months, and a rapid decline thereafter. Hennon et. al., (1967) surveyed 915 white preschool children between the ages of 18 and 39 months. The study revealed that 8.3 percent of the children between 18 and 23 months of age had dental caries. The percentage increased steadily to a high of 57.2 percent in those 36 to 39 months old. Savara and Suher (1954) examined 650 children from one to six years of age for the presence of dental caries. They found that 79 percent of the one and two year old children had no decay; only 33 percent of the three and four year olds had no decay; and only 19 percent of the five and six year-old children were caries free.

In a recent survey of 35,793 dental patients Moen and Poetsch (1970) found that more than 25 percent were between the ages of 10 and 19. The lowest proportions were among children below five years of age and among people 55 and over. Females also accounted for a larger proportion of dental patients than males in nearly all age groups. Both Friedson and Feldman (1958) and Butler (1967) report a tendency for females to visit the dentist slightly more frequently than do males. Jonsson and Wictoria (1967) found the tendency reversed in a study of three Swedish provinces but attribute their finding to local factors since a larger and more representative study

found that females visit the dentist more frequently than males. Anderson (1957) found (p. 72) that "In all age groups except 65 and over, women were more likely to consult a dentist than were men; 36 percent of the women and 31 percent of the men, on the average, consulted a dentist."

1.02.02 Factors Influencing Dental Health Care Practice: Generally, dental care studies have concentrated on identifying variables that influence, or are at least associated with dental practice. As a result a multiplicity of factors has been established. In fact, it sometimes seems that very few variables are not related to dental practices.

1.02.02.01 Socioeconomic Status: Socioeconomic status is the factor that has most consistently been demonstrated as influencing dental health care. Suchman and Rothman (1969) found that high socioeconomic rank is attended by a high degree of utilization of dental services. Furthermore, income, education, and occupation, the component measures of socioeconomic status, were discovered to influence (together and independently) dental care behavior. Similar results have been reported in earlier studies (Kriesberg and Treiman, 1960; Lambert and Freeman, 1967; Collins, 1966; Jong, 1968).

In a study of six non-metropolitan counties in New York, Hay et. al. (1953) found a positive correlation between the use of dental services and family income. Substantially higher use was found among higher income households compared with lower income households. Higher utilization was also found among the more highly educated. Moen (1954) reports a significant difference in the frequency of dental visits according to income. Nearly 81 percent of those in families with incomes above $5,000 visited the dentist at regular time intervals compared to slightly over 51 percent among those in families with incomes below $2,000. O'Shea and Gray (1968) reported significant differences in the dental care behavior of respondents in a national survey when viewed in terms of income and education. They found that as a person's education increased, so did the likelihood that he had seen the dentist within the past year. They found, (p. 407) that, " . . . only about one-fifth of the persons with an

elementary school education said that they had been to the dentist during the year. Two-thirds of the college graduates, however, and three-fourths of persons with post-graduate and professional training had done so." The same trend was apparent with regard to income. Of those with less than $2,000 annual income, only 16 percent reported having gone to the dentist within the past year. As annual income increased, the frequency of dental visits increased also. Seventy-six percent of the respondents in the $15,000 and above income group had visited the dentist.

Using family income, the educational level of both father and mother, and the main earners occupation as measures of socioeconomic status, Kriesberg and Treiman (1962, p. 29-30) report, " . . . a high positive relationship between teenagers' preventive utilization of dentists' services and the socioeconomic position of their families."

Metzner (1960, p. 4), has written that, "What has been found out so far is that utilization of dental services is quite restricted, and much more likely among those of higher income and education." Haefner, et. al. (1967, p. 458) states that, "People of upper socioeconomic status, that is, those of higher education, income, and occupation, consistently took more preventive actions than persons of a lower socioeconomic level." Other studies lend support to these observations (Anderson, 1957; Jefferys, 1957; Moen, 1953; Dickson, 1968; Jonsson and Wictorin, 1967).

To enumerate these factors is not to explain them. Kriesberg and Treiman (1960) attempted to identify variables that account for the differences in dental care among socioeconomic groups. Although childhood training, relationship between patient and dentist, opinions and knowledge about teeth and their care, and fear of pain were all shown to influence dental care practice in varying degrees, none of these variables were sufficient in explaining socioeconomic group differences. Lack of adequate financial resources appears to be the most important single factor considered in the study. Kriesberg (1963) has since concluded that dental care utilization if affected primarily by cultural factors, that is, those related to childhood experience and the socialization process.

Although the financial barrier appears to be a major deterrent in seeking dental care it does not provide a single variable explanation. Nikias (1968) compared dental care utilization patterns among different social groups within a population that was

entitled to dental care at little or no cost through membership in a dental prepayment plan. Social class was indexed according to the occupation of the subscriber. A large variation was found among occupational groups in the use of prepaid dental services. The higher the occupational level, the greater was the use of dental services. Utilization was significantly more prevalent among white-collar persons than among persons in the blue-collar group. According to Nikias (p. 392) the blue-collar group "showed a complete lack of preventively-oriented behavior since only seven out of 100 persons who were covered for three years visited the dentist at least once every year, compared with about one-fifth for those in the low white-collar and one-third for those in the high white-collar groups." It appears that elimination or reduction of the cost factor through prepayment did not result in generally equal utilization of dental services among the different groups.

According to Kriesberg, there are situational factors that influence dental care behavior. Most important among these variables is income. A second important situational factor is the interaction with the dentist. Thus, dentists who practice preventive dentistry are more likely to affect preventive dental care by their patients. It is important to emphasize that these factors do not account for the manifest relationship between rank and dental care. According to Kriesberg (1963, p. 348), "when situational factors are relatively equal, we still find a high relationship between socio-economic rank and utilization of dentists' services."

Metzner (1960) reports on the results under the prepayment plan of the Labor Health Institute of St. Louis. Removal of the cost barrier did not create a wave of utilization of dental services and figures on visits were found to be below national averages. Therefore, it appears that to remove income barriers, for example, will not substantially improve dental care behavior.

Cons and Leatherwood (1970) identified a number of impediments to the receipt of dental care. The major obstacle was the financial barrier. Included also are insufficient dental manpower, lack of transportation, prejudicial treatment, ignorance of dental needs and available services, desire and community acceptance for dental programs, and other social, cultural, or ethnic factors.

Tash, et. al. (1969), noted previously identified a number of variables, in addition to socioeconomic status and cost factors, related to a preventive orientation toward dental care. Included are fear of pain, dental knowledge, sex, age, ethnicity, and rural versus urban background. Most of these factors appear to work independently in influencing behavior.

1.02.02.02 Parental Influence: In her recent study, Rayner (1970) found that examples of dental health practices furnished to children by their mothers are important determinants of the dental health practices of the children. Metz and Richards (1967) found similar results in their study. They state (p. 210) that, " . . . parents' own practice in making preventive dental visits has a greater influence than either family income or parents' education on whether a child will make preventive visits to the dentist." Mechanic (1964) found that less educated mothers were more fatalistic about health and illness and less concerned about protecting children's health. Metzner (1960) cites a study in a rural area of Louisiana which concluded that the reasons for fewer dental visits among children were (p. 4) "that parents did not consider deciduous teeth important, that they felt children suffered less when they had a toothache and were not really sick and that malocclusions were of little significance."

Kriesberg and Treiman (1962) found parental influence to be a significant factor in moderating the influence of family income on teenagers' preventive dental visits. They state (p. 40) that, "parents who themselves go to the dentist preventively are much more likely to have teenagers who go preventively than are parents who do not go preventively themselves." They found that when parents visit the dentist preventively, a large proportion (79 percent) of their teenagers do also. The figure was identical in cases where annual family income was both above and below $5,000. Freeman and Lambert (1965) found a significant positive relationship between the mother's own dental behavior and that of her child. Schreiber and Scales (1971) studied anxiety and dental health in institutionalized delinquent adolescents. They found a positive relationship between the adolescents' opinion of the dental health of their mothers and their own dental health. In a study of "fearful" and "non-fearful" groups of dental patients Shoben and Broland (1954, p. 174) concluded ". . . that the attitudes and experiences

of one's family in relation to dentistry seem to be a most important factor in determining whether an individual will react with anxiety to the prospect of dental treatment and will therefore tend to avoid oral care for a detrimentally long period or to be emotionally disturbed and uncooperative in the chair. People come to the dentist set to respond with tension and fear chiefly because of the way dentistry has been represented to them in their homes." According to Collett (1969), dental patients develop certain feelings which are related to a number of factors. The attitudes and experiences of his family are viewed as being of particular importance.

1.02.02.03 Fear Anxiety. Jonsson and Wictorin (1967) reported on a study in Sweden where almost one-third of the respondents had apprehensive feelings when faced with a visit to the dentist. Freidson and Feldman (1958) found that 51 percent of a large and representative sample did not visit the dentist regularly. Out of these, 9 percent reported that their reluctance to do so was based on fear. According to Kegeles (1963), fear of dental treatment significantly reduced the number of preventive visits, independent of social class. Lautch (1971) suggests that fear of dental treatment in other members of the family is one of several predisposing factors in the development of dental phobia. Kriesberg and Treiman (1960) found no relationship existing between the amount of fear acknowledged by adult respondents in going to the dentist and their income levels. They found that within each income category there was a tendency for persons who had expressed fear of going to the dentist to be less likely to go to the dentist. While fear of pain apparently has some effect upon utilization of dental services, it does not explain the relationship between social class and visits to the dentist.

In a similar analysis of teenagers, Kriesberg and Treiman (1962) found a tendency among teenagers in families of annual incomes under $5,000 to admit great fear as opposed to teenagers in families with annual incomes of $5,000 and over. Within income groups they found a tendency for teenagers who admitted great fear to be less likely to make preventive dental visits than for those who acknowledged some fear or who responded that they felt no fear. Apparently, there is no relationship between fear and income among adults but the relationship is present among teenagers.

In explanation, the authors suggest the possibility (p. 37) that, "differences in the degree of pain experienced in dental work could vary among dentists only with the introduction of new equipment, and since this is relatively recent, it would materially affect the feelings of teenagers." Kleinknecht et al., (1973) surveyed college, high school, and junior high school students in an attempt to explain fear reactions to dentistry in terms of the learned responses to the stimuli inherent in the dental treatment situation. They found that the highest fear ratings were given to the sight of the syringe and the sensation of anesthetic injection. The participants reaction to the sight, sound, and feeling of the dentist's drill were also important fear-producing stimuli. Females reported a significantly higher level of fear of dentistry than males. Several factors appear to account for the fear reactions of the participants, (1) expectation of trauma from dentists, (2) much previous painful dental experience, and (3) the perception of ill-treatment or error by the dentist.

Sword (1970) has suggested that oral neglect may be closely associated with poverty. Because of poverty, people may be primarily concerned with the basic necessities of survival and neglect oral as well as general health. Or, it may be that some persons seek care only when they experience pain. Still another explanation suggests that oral neglect may stem from the tendency that some individuals have to punish themselves. Sword sees such tendencies as possible symptoms of emotional disorder.

1.02.02.04 Attitude and Perception: The relationship between dentist and patient appears to be a factor influencing dental treatment. Though we often assume that dentists are highly regarded by their patients it is apparent that dentists encounter some unfavorable attitudes among their patients. Collett (1969) suggests that these attitudes may be due to inaccurate information about dentistry and dental treatment. He recommends that dentists provide their patients with adequate information regarding the various aspects of their treatment as a measure to reduce unfavorable attitudes toward dentists.

Kriesberg and Treiman (1962, June) interviewed 1,862 adults in a nationwide sample and found that the respondents generally reported satisfaction with the way

dentists performed their services. The main concern of the respondents was with the quality of the dental work, the dentists' personality and way of interacting with patients, his skill in minimizing pain, and the fees dentists charge for their services. The dentists' attitudes toward the patient and his professional ability were found by McKeithen (1966) to be the most frequently emphasized characteristics of the "ideally" good dentist. The dentist's ability to relieve fear and pain and his professional attitudes were also found to be important characteristics.

Quarantelli (1961) reports on the perceptions student-dentists acquire with respect to certain aspects of the dentist-patient relationship. According to Quarantelli (p. 1313), "Almost all dental students perceive themselves entering a profession about which they feel the public has at least some definitely unfavorable views." Only 10 percent of the dental students surveyed by Quarantelli believed that people had a generally favorable image of the dentist. In contrast, more than three times as many thought the reverse. The rest of Quarantelli's respondents are reported as having a mixed image. The negative self-image is attributable, according to the author, to (1) the feeling that the public views the dentist as possessing only mechanical skills, (2) the physical pain involved in much dental work, and (3) the belief that dentists demand high fees for their services.

Rayner (1973) found that a specific image of the public exists in the minds of dental professionals. Relying on the assumed accuracy of the data collected in the 1968 national survey of adult public opinion on dental health, Rayner compared what the public said they believed with respect to several important areas of dental health with what the profession believes the public believes. Data were collected to determine whether dentists and dental auxiliaries could accurately judge public responses to certain dental health items – specifically in the area of fluoridation, dental visits, health education, dental x-rays, prophylaxis and individual rights regarding public issues including dental care. Rayner's data suggest rather large inaccuracies of judgment in specific areas of public beliefs—fluoridation, dental visits, and dental health education. The most accurate evaluations occurred in the areas of individual rights, x-rays, and prophylaxis. According to Rayner, (1973) the pattern of responses suggests a negative image that may interfere with effective communication between the dental profession and the public.

1.02.02.05 Cultural Factors: Ethnic affiliation and cultural differences appear to be important factors influencing utilization of dental care services. According to Suchman (1963, p. 84):

> The provision of public health services to certain minority groups, such as Negroes, Puerto Ricans, and Spanish-speaking Americans, is an especially important problem facing public health today. These groups show a much higher incidence of illness, and yet they are most difficult to reach. The wide cultural barriers that keep these groups out of the mainstream of American life also cut them off from many available public health services.

Suchman and Rothman (1969) concluded that, in addition to variation among ethnic groups, there exists within group differences based on group identification. That is, the degree to which an individual identifies with his ethnic group bears a positive relation to the number of visits to the dentist by the individual. Parochial individuals, those who adhered closely to their ethnic groups, were found to be less likely to avail themselves of dental services than cosmopolitans, those who were not closely affiliated with their groups.

Of the studies of cultural differences that have been reported, most are limited to social and ethnic groups that typically live in the metropolitan areas of the eastern United States. There is a paucity of information of differences and similarities existent among Chicanos, American Indians, and Anglos, the three primary cultures of the Southwest.

According to Saunders (1954), the differences in medical care that exist between the Anglo and Chicano are perpetuated by the slow acculturation process in the rural Southwest, and by cultural barriers to medical care that are not understood by Anglo physicians and public health workers. Saunders states that urban Chicanos are inculcated into Anglo patterns more rapidly than rural Chicanos, and therefore are more likely to possess better health care practices. This suggestion is consistent with the parochialism–cosmopolitanism hypothesis of Suchman and Rothman noted above. Schulman and Smith (1963) found that the concept of health among some isolated Spanish-speaking communities consisted of the threefold criteria of a high level of physical activity, a well-fleshed body, and the absence of pain. Thus, no dental care was perceived as being needed unless an individual experienced continuing pain.

Irelan (1966) discusses the importance of folk medical practices and beliefs found in some Mexican American folk communities. Persons suffering minor disorder may treat themselves or seek assistance from family, neighbors, or friends. Should the disorder persist, a diviner or curandaro may be consulted. The curandaro relates to the patient in a warm and personal manner and explains his illness and treatment in understandable terms. Irelan suggests (p. 53), that, "the difference between this treatment and the cool impersonality of hospitals and professional offices often keeps Mexican Americans from approaching physicians and other medical specialists."

The American Indian, as represented by the Navajo, has been identified (Mico, 1962), as having vastly different cultural patterns, health concepts, and social organizations than do non-Indians. It is Mico's position, therefore, that not only do we need to increase the number of health facilities available to Indians, but we must also overcome cultural differences that impede utilization of such services. This is especially true in regard to the Navajo's perception of Anglo medicine.

Blue Spruce (1961), along similar lines, asserts that the dental care offered to the American Indian in the past has not been attended by sufficient concern for the social structure of the tribes. Suchman (1963, p. 82) recommended the use of existing Indian social structure to facilitate the utilization of health care services. Furthermire, for a period of time prior to 1955, dental care offered to American Indians was at best symptomatic in nature and frequently limited to extractions to relieve pain.

According to Abramowitz (1970), Indians live predominantly in isolated areas where private dental care is unavailable. Even if private practice services were available, the cost would be a factor limiting utilization. Abramowitz notes that in general, American Indians have maintained their traditional language, religion, values, and social organizations. "They are not familiar with modern health theories and do not understand the scientific bases of illness and treatment," according to Abramowitz (p. 396).

Foster (1958) attributes the failure of many medical and public health programs to the inadequate attention given to the nature of the cultures involved. He lists a number of cultural barriers to medical care. Those that seem to be existent in the

Chicano and American Indian populations are: (1) suspicion of new things; (2) fatalism; (3) modesty; (4) religious factors; (5) social structures; (6) family structure; (7) suspicion of government programs and personnel; (8) communication problems; and (9) differing perceptions of medical problems. The failure of a dentist, medical doctor, or a public health officer to be sensitive to these needs may encourage the continuance of poor health practices. However, recognition of cultural differences may bear a positive effect in encouraging improved health behavior.

1.02.02.06 Other Factors: Failure to seek regular dental treatment may be due to apathy, according to Jackson (1967). In a study of 797 English factory workers Jackson found that 74 percent were in need of regular dental treatment and of these, only 46.8 percent sought regular care. Of those who did not seek dental treatment regularly, 63.5 percent gave apathy as the major reason. Other reasons given were fear, shortage of time, and concern over cost.

In a study of health in rural Missouri, Hassinger and McNamara (1957) found a large discrepancy between what people say "should be done" and what they actually do in several selected areas of health behavior. Four-fifths of those interviewed thought that a person should see a dentist at least once a year and over one-half of these thought that a person should see a dentist at least every six months. Twenty-seven percent of these individuals had visited a dentist within the year; forty percent had seen a dentist from one to five years previous; thirty percent had not seen a dentist in over five years, and twelve percent had never been to a dentist. Hassinger and McNamara suggest that the discrepancy between opinion and practice may be due to barriers, for example, fear, expense, distance, and lack of confidence. Another possible explanation is that an opinion may be held with indifference. In such a case, the individual may feel no necessity that his behavior conform to his opinion.

Friedson and Feldman (1958) found a distinct difference between what the public knows to be good dental practice and what it actually does. The use or avoidance of dental services is viewed from the patients perspective as being influenced by a number of interrelated factors operating together. The authors state (p. 335) that, "The prospective patient assesses his dental condition and the seriousness of the

consequences if he does not seek dental care. This self-diagnosis is weighted or balanced against the factors of cost, anticipated pain, and inconvenience, to see if going to the dentist "is worth it." The final result—the use or avoidance of dental services—is thus a complex product of the education involved in self-diagnosis, of the income level involved in weighting costs, of the dental health and past experience involved in anticipating pain, and of the social experience involved in assessing inconvenience."

Donnelly (1967) suggested that the rural-urban dimension might "cause" differences in dental health status in at least two ways. First, there are generally fewer dentists per capita in rural areas than in urban. And, second, rural children are rarely exposed to fluoricated water supplies. The National Center for Health Statistics (1972) reports the highest number of annual dental visits among residents of metropolitan areas.

Dental appearance or aesthetic considerations also appears to be a variable affecting the practices of dental care (Linn, 1966). There are differential effects depending upon the specific social situation and to some extent the social status of the person. Actual dental appearance and resulting self-conscious behavior were also found to be culturally and socially related.

In an extensive review of the research literature, Bibby (1970, p. 1198) concludes:

> In almost all of the naturally constituted population groups between which comparisons of caries prevalence have been possible there is an association between high caries and high use of sugar.

However, since diet is a cultural as well as socioeconomic phenomenon, its role in dental health is difficult to assess. For one thing, the relationship is not a simple one. Mere ingestation of a foodstuff does not "cause" poor dental health. According to Chilton (1950) the foods displaced from the diet by, say, excessive refined carbohydrates as important to a well-balanced diet and the accompanying lowered well-being of their recipient may be more serious than the direct effects of the displacer foods.

PART TWO

Data Collection and Treatment

2.01.00 Introduction

This section presents information concerning the data collection procedures followed during this study. The populations of interest are described, sampling procedures and the actual sample are presented, data collection procedures are explained, and data analysis techniques are discussed.

2.02.00 Populations

Five ethnic/residential groups were considered populations of interest for the study. The five groups which were chosen to participate in the project were:

a. urban/city Anglo American

b. urban/city Spanish-speaking

c. rural Anglo American

d. rural Spanish-speaking

e. Native American

2.03.00 Samples

Three sampling sites were used for selection of family unit participants for the first year study. A family unit consisted of an elementary school age child and the mother. The second year samples were obtained in the Las Cruces, New Mexico area only. In all cases, participants were selected randomly from lists of students provided by cooperating school authorities. Groups and their sampling sites are shown in table 2.01.

Table 2.01

Groups Sampled and Sampling Sites

Group	Site
urban Spanish-speaking	Las Cruces, New Mexico
urban Anglo American	Las Cruces, New Mexico
rural Spanish-speaking	Blanco, New Mexico
rural Anglo American	Bloomfield, New Mexico
Native American	Farmington/Bloomfield, New Mexico area

Sample sizes for each group for each year are indicated in Table 2.02. The figures provided are the numbers of family units interviewed. The figures in parenthesis correspond to the number of family units provided with the dental examination.

Table 2.02

Sample Sizes

Group	Year I	Year 2
urban Spanish-speaking	95 (43)	90 (45)
urban Anglo American	70 (27)	58 (33)
rural Spanish-speaking	35 (27)	64 (30)
rural Anglo American	28 (17)	16 (7)
Native American	38 (19)	0 (0)
TOTALS	266 (133)	228 (115)

The Native American population was not sampled during the second year validation phase of the study. Efforts were made to obtain permission from authorities to obtain participant name lists for this group at several sites. In all cases, such efforts were unproductive; reasons given varied.

There appears to be a general distrust of and discontent with research studies among officials of Native American groups. Reasons expressed for this included the belief that "nothing beneficial ever comes out of them."

As a result, data and results presented in this study pertaining to the Native American group are based on the first year sample only.

2.04.00 Collection of Data

Information obtained from participants was of two kinds, interview data and technical indices. Both were collected during the Spring of 1972 for the first year phase and during the Fall of 1972 and Spring of 1973 for the validation part. The first type was obtained through a personal interview of the mother using a 73-item questionnaire. The second was collected by means of dental examinations of both the mother and the child.

The interview was conducted at the home by trained interviewers of the same ethnic residential group as the respondent using the 73-item questionnaire exhibited as Appendix A. The interviewer for the Native American group was a male Navajo of the Bloomfield, New Mexico area; all others were female. The dental examinations were conducted by professional dentists supervised by Dr. Thomas McDermott, Regional U. S. Public Health Service Director, Dallas, Texas. Recording of dental information was done on the dental exam form developed by Dr. McDermott and exhibited as Appendix C. Codes used for recording information are presented in Appendix B.

2.05.00 Data Analysis

The information collected during the interview session was summarized and analyzed via descriptive statistics, analysis of variance, and path analysis. A summary of the technique of path analysis is presented in Part Five.

The diet data was subjected to a principle components factor analysis. All analyses were performed using the New Mexico State University's IBM 360/65 computer facilities.

PART THREE

Presentation of Data and Statistical Analyses

3.01.00 Format of Part Three

The questionnaire used in this study was structured to obtain information relevant to demographic, socio-psychological, perceptual, and technical indices. In this section, responses to specific questions are presented in this form of percentage of persons interviewed responding to a particular question. Each question presented is examined as responded to by each of the five ethno-residential groups.

Following presentation of descriptive data related to specific questions, statistical comparisons on 44 factors among the five groups are provided.

3.02.00 Abbreviation

In order that graphs, charts and tables be presented in a more concise fashion, the five residential groups in the sample will be abbreviated as follows:

Groups	Abbreviation
Urban Spanish-Speaking	US
Urban Anglo American	UA
Rural Spanish-Speaking	RS
Rural Anglo American	RA
Native American	NA

3.03.00 Variables

Presentations of descriptive tables are preceded by a short summary of each variable depicted in the table. Further examinations can be made by inspection of table values.

3.03.01 Demographic: Questions pertinent to the structure of the family unit interviewed included ones relative to the number of children in the family, the number of children living at home at the time the interview was conducted, and the number of adults, other than respondent and spouse, who were also living in the home. Family income was also examined.

Other variables were also considered as descriptive of family structure. These included marital status of respondent, whether or not the spouse lived at the same residence, age of respondent, and age of spouse.

A higher proportion of Native American families have adults other than the parents living in the same home than any of the other groups. Over 26% of the households so responded.

Average family size was largest for the Native American. Figures presented in Table 3.01 represent the family unit comprised of children and parents. Other resident adults are included in this but children no longer living at home are excluded. The range of number of children at home and total number of children are provided in Table 3.03.

Income distribution figures are included in Table 3.07. Highest percentage figures in the upper income range exist for the urban Anglo group and in the lowest income range for the Native American.

Table 3.01

Average Family Size

Group	Mean Size of Family
UA	5.10
RA	5.18
RS	6.42
US	6.44
NA	7.78

Table 3.02

Percentage of Households with Adult Residents Other than Parents

Number of other Residents	Group				
	US	UA	RS	RA	NA
1	12.1	7.1	5.9	0.0	8.8
2	0.0	1.4	0.0	0.0	5.9
3	0.0	0.0	0.0	0.0	2.9
4	0.0	0.0	0.0	0.0	0.0

Table 3.03

Range of Number of Children

Group	Range	
	Children	Children at Home
US	1 - 14	1 - 12
UA	1 - 8	1 - 7
RS	1 - 12	1 - 8
RA	2 - 6	2 - 6
NA	1 - 12	1 - 11

Table 3.04

Range and Mean Age of Male Parent

Group	Range	Mean Age
US	26 - 54	[illegible].5
UA	[illegible] - 58	36.2
RS	26 - 54	41.5
RA	30 - 5[illegible]	37.5
NA	26 - 50	39.0

Table 3.05

Range and Mean Age of Female Parent

Group	Range	Mean Age
US	23 - 57	36.7
UA	24 - 47	33.7
RS	18 - 50	37.5
RA	27 - 44	35.2
NA	25 - 72	38.6*

* mean age does not include one 72 year old guardian

Table 3.06

Marital Status of Respondents

Group	Percent Responding to Status*				
	M-Lws	M-Sep	Wi	Di	Si
US	92.6	2.1	2.1	3.2	0.0
UA	97.1	0.0	1.4	1.4	0.0
RS	94.3	0.0	0.0	2.9	2.9
RA	92.9	7.1	0.0	0.0	0.0
NA	84.2	5.3	0.0	7.9	2.6

*M-Lws - married, living with spouse
M-Sep - married, separated
Wi - widowed
Di - divorced
Si - single

Table 3.07

Frequency Distribution of Income

Range	Group and percent in range				
	US	UA	RS	RA	NA
Under 3000	5.4	1.4	2.9	3.6	39.5
3,000 - 4,000	4.3	1.4	17.6	0.0	5.3
4,000 - 5,000	11.8	0.0	14.7	0.0	15.8
5,000 - 7,500	25.8	15.9	2.9	3.6	23.7
7,500 - 10,000	23.7	17.4	11.8	64.3	7.9
10,000 - 12,000	15.1	11.6	41.2	25.0	5.3
12,500 - 15,000	9.7	26.1	2.9	0.0	2.6
15,000 - 20,000	2.2	21.7	5.9	3.6	0.0
Over 20,000	2.2	4.3	2.9	0.0	0.0

3.03.02 Dental Knowledge: Indices related to dental knowledge possessed by the respondent were obtained through questions 20, 21, 22, and 23 of the questionnaire. Descriptive information regarding responses of the five groups to these four questions is provided in Tables 3.08 through 3.11.

Responses to statements relative to information about dental knowledge indicate that the Native American group deviates somewhat from the other groups in beliefs about diet and need to see a dentist. A much larger percentage of this group agree that diet does not affect tooth decay rate and that the need for professional dental care is diminished with the disappearance of symptoms.

Table 3.08

Dental Knowledge

Statement: Straight teeth can shift and become crooked.

Response	Group and Percent Responding				
	US	UA	RS	RA	NA
strongly disagree	2.1	2.9	0.0	7.1	7.9
disagree	28.4	20.3	23.5	25.0	18.4
agree	66.3	72.5	73.5	67.9	71.1
strongly agree	3.2	4.3	2.9	0.0	2.6

Table 3.09
Diet Knowledge

Statement: Diet does not affect tooth decay rate.

Response	Group and Percent Responding				
	US	UA	RS	RA	NA
strongly disagree	11.8	47.1	22.9	60.7	2.6
disagree	64.5	45.6	54.3	32.1	10.5
agree	21.5	4.4	14.3	3.6	78.9
strongly agree	2.2	2.9	8.6	3.6	7.9

Table 3.10

Statement: If you have a toothache which goes away after a while, there is no need to see a dentist.

Response	Group and Percent Responding				
	US	UA	RS	RA	NA
strongly disagree	14.9	30.0	14.3	33.3	0.0
disagree	67.0	65.7	77.1	59.3	60.5
agree	17.0	4.3	8.6	7.4	36.8
strongly agree	1.1	0.0	0.0	0.0	2.6

Table 3.11

Statement: A person can always tell if there is something wrong with his teeth and gums.

Response	Group and Percent Responding				
	US	UA	RS	RA	NA
strongly disagree	2.1	25.0	0.0	28.6	0.0
disagree	44.7	57.4	25.7	57.1	5.3
agree	51.1	17.6	68.6	14.3	86.8
strongly agree	2.1	0.0	5.7	0.0	7.9

3.03.03 Attitudes: Feelings about dentists and the dental profession cannot be ignored as a possible determinant of dental care behavior. Questionnaire items related to this question are presented in Tables 3.12 through 3.22.

Responses of each group to 10 descriptors as applied to dentists are presented in Tables 3.13 through Table 3.22. Each respondent was permitted to pick three terms that best described dentists to her. She was further asked to rank the three descriptors picked. Tables 3.13 through 3.22 show the percentage of time each descriptor was picked as first, second, or third choice by those respondents choosing it.

Generally, perceptions about dentists were good for all five groups. The descriptor picked most often by all groups was "friendly." This was followed by "skillful" and "gentle " for the urban Spanish-speaking group and by the reverse order for the urban Anglo group. Descriptors in second and third place were "gentle" and "honest" for the rural Spanish group, "skillful" and "gentle" for the rural Anglo group, and "kindly" and "honest" for the Native American group. The descriptor never picked was "uneducated."

The profile of dentists that emerges from the data collected is that they are friendly, skillful, and gentle.

Further perceptions about dentists were pursued using a series of questions aimed at determining how each group generally felt about dentists in the area of courtesy, prescription of treatment, friendliness, racial prejudice, and technical competence.

Results of this series of questions are presented in Tables 3.23 through 3.27.

Table 3.12

Frequency of Descriptor Choice

Descriptor	Group and Percent Choosing Descriptor				
	US	UA	RS	RA	NA
friendly	86.4	81.4	91.5	75.0	71.0
kindly	33.7	27.2	17.2	46.5	60.5
money grabbing	5.3	11.4	2.9	14.3	5.3
gentle	51.6	55.7	71.5	50.0	52.5
harsh	4.2	4.3	0.0	0.0	0.0
incompetent	1.1	1.4	0.0	3.5	5.3
unfriendly	2.1	1.4	0.0	3.5	5.3
honest	48.5	27.2	57.0	25.0	58.0
skillful	65.0	45.8	54.4	71.5	42.0
uneducated	0.0	0.0	0.0	0.0	0.0

Table 3.13

Descriptor: friendly

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS	RA	NA
first	74.4	45.6	65.6	52.4	77.8
second	18.3	33.3	21.9	23.8	11.1
third	7.3	21.1	12.5	23.8	11.1

Table 3.14

Descriptor: kindly

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS	RA	NA
first	9.4	5.3	16.7	15.4	17.4
second	59.4	47.4	50.0	53.8	78.3
third	31.3	47.4	33.3	30.8	4.3

Table 3.15

Descriptor: money grabbing

Choice	Group and Choice Distribution Descriptor when Picked				
	US	UA	RS	RA	NA
first	40.0	12.5	0.0	25.0	0.0
second	40.0	12.5	100.0	0.0	100.0
third	20.0	75.0	0.0	75.0	0.0

Table 3.16

Descriptor: gentle

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS	RA	NA
first	10.2	10.3	11.1	0.0	10.0
second	59.2	56.4	74.1	71.4	20.0
third	30.6	33.3	14.8	28.6	70.0

Table 3.17

Descriptor: harsh

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS*	RA*	NA*
first	25.0	0.0	--	--	--
second	50.0	66.7	--	--	--
third	25.0	33.3	--	--	--

*This descriptor was never chosen by this group.

Table 3.18

Descriptor: incompetent

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS*	RA	NA
first	100.0	100.0	--	0.0	0.0
second	0.0	0.0	--	100.0	0.0
third	0.0	0.0	--	0.0	100.0

*This descriptor was never chosen by this group.

Table 3.19

Descriptor: unfriendly

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS*	RA	NA
first	0.0	100.0	--	0.0	0.0
second	50.0	0.0	--	0.0	100.0
third	50.0	0.0	--	100.0	0.0

*This descriptor was never chosen by this group.

Table 3.20

Descriptor: honest

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS	RA	NA
first	13.0	21.1	15.0	14.3	22.7
second	32.6	36.8	25.0	42.9	31.8
third	54.3	42.1	60.0	42.9	45.5

Table 3.21

Descriptor: skillful

Choice	Group and Choice Distribution of Descriptor when Chosen				
	US	UA	RS	RA	NA
first	22.6	50.0	21.1	55.0	25.0
second	24.2	21.4	26.3	15.0	25.0
third	53.2	28.6	52.6	30.0	50.0

Table 3.22

Descriptor: uneducated*

Choice	Group and Choice Distribution of Descriptor when Picked				
	US	UA	RS	RA	NA
first	--	--	--	--	--
second	--	--	--	--	--
third	--	--	--	--	--

*This descriptor was never chosen by any of the groups.

Table 3.23

Perceptions about Technical Competence of Dentists

Statement: Most dentists are not very good.

Response	Group and percent responding				
	US	UA	RS	RA	NA
strongly disagree	18.5	26.1	11.4	21.4	25.0
disagree	66.3	71.0	74.3	64.3	25.0
agree	15.2	1.4	11.4	10.7	50.0
strongly agree	0.0	1.4	2.9	3.6	0.0

Table 3.24

Perceptions about Treatment
Prescription by Dentists

Question: How often do you feel that the work prescribed by dentists isn't necessary?

Response	Group and Percent responding				
	US	UA	RS	RA	NA
often	19.1	4.3	2.9	14.3	7.9
sometimes	36.2	25.7	34.3	28.6	13.2
rarely	17.0	50.0	28.6	39.3	18.4
never	27.7	20.0	34.3	17.9	60.5

Table 3.25

Perceptions about Friendliness of Dentists

Question: How friendly are most dentists?

Response	Group and Percent responding				
	US	UA	RS	RA	NA
very friendly	36.2	46.4	48.6	32.1	50.0
somewhat friendly	59.6	52.2	51.4	57.1	39.5
somewhat unfriendly	2.1	0.0	0.0	10.7	10.5
very unfriendly	2.1	1.4	0.0	0.0	0.0

Table 3.26

Perceptions about Courtesy of Dentists

Question: How often have dentists been rude to you?

Response	Group and percent responding				
	US	UA	RS	RA	Na
often	2.1	0.0	0.0	0.0	0.0
sometimes	9.6	10.0	8.6	17.9	18.9
rarely	9.6	22.9	17.1	17.9	2.7
never	78.7	67.1	74.3	64.3	78.4

Table 3.27

Perceptions About Racial Prejudice of Dentists

Question: Do you feel that dentists are prejudiced against Mexican-American/Native Americans?

Response	Group and percent responding				
	US	UA	RS	RA	NA
yes	6.4	4.3	2.9	0.0	2.7
no	81.9	47.1	68.6	63.6	86.5
Don't know	11.7	48.6	28.6	36.4	10.8

3.03.04 Barriers to Dental Care: A series of questions were asked of respondents directed at seeking possible reasons for lack of dental care. These can be classified as barriers to dental care due to pain anxiety (Table 3.28), language barrier (3.29), social anxiety (3.30 - 3.11), fear of discovery of serious illness (3.32), financial (3.34), and home responsibility impediments (3.35).

Lack of language facility was expressed as being a barrier by approximately 30% of the Native Americans and 24% of the urban Spanish-speaking group. Embarrassment because of teeth condition appeared to be somewhat of a barrier to dental care for all except the urban Anglo group, especially for the Native American. Fear of discovery of illness was high for the Native American and the urban Spanish speaking groups and financial reasons for avoiding dental care was high for all five groups.

Table 3.28

Fear of Pain as a Barrier to Dental Care

Question: Do you ever avoid seeking dental care because of fear of pain?

Response	Percentage of Group Responding				
	US	UA	RS	RA	NA
often	11.8	7.1	5.7	10.7	2.6
sometimes	20.4	10.0	14.3	0.0	15.8
rarely	15.1	8.6	8.6	7.1	10.5
never	52.7	74.3	71.4	82.1	71.1

Table 3.29

Lack of Language Facility as a
Barrier to Dental Health Care

Question: Do you ever avoid going to the dentist because he is not bilingual?

Response	Group and percent responding				
	US	RA	RS	RA	NA
often	10.3	0.0	0.0	0.0	7.9
sometimes	13.8	0.0	0.0	0.0	23.7
rarely	3.4	0.0	0.0	0.0	13.2
never	72.4	100.0	100.0	100.0	55.3

Table 3.30

Social Anxiety

Question: Do you ever feel embarrassed about going to the dentist because of the condition of your teeth?

Response	Group and percent responding				
	US	UA	RS	RA	NA
yes	26.9	17.1	25.7	25.0	34.2
no	73.1	82.9	74.3	75.0	65.8

Table 3.31

Social Anxiety
(continued)

Question: Do you ever avoid going to the dentist because you feel ill at ease in his office?

Response	Group and percent responding				
	US	UA	RS	RA	NA
often	2.2	2.9	3.6	--	2.6
sometimes	12.9	5.7	0.0	--	26.3
rarely	5.4	7.1	0.0	--	0.0
never	79.6	84.3	96.4	--	71.1

Table 3.32

Fear of Illness Discovery as a
Barrier to Dental Care

Question: Do you ever avoid the dentist because he might find something wrong with your teeth or gums?

Response	Group and percent responding				
	US	UA	RS	RA	NA
yes	16.8	7.1	2.9	0.0	26.3
no	83.2	92.9	97.1	100.0	73.7

Table 3.33

Dentist Behavior as a Barrier
to Dental Care

Question: Do you ever not go to the dentist because he is too busy to see you?

Response	Group and percent responding				
	US	UA	RS	RA	NA
often	1.1	0.0	0.0	7.1	5.3
sometimes	18.9	8.6	20.0	25.0	28.9
rarely	5.3	8.6	11.4	10.7	5.3
never	74.7	82.9	68.6	57.1	60.5

Table 3.34

Financial Ability to Obtain
Dental Care

Question: Do you ever avoid dental care because you feel you cannot afford it?

Response	Group and percent responding				
	US	UA	RS	RA	NA
often	24.2	17.1	31.4	35.7	15.8
sometimes	42.1	32.9	42.9	28.6	63.2
rarely	2.1	5.7	2.9	10.7	5.3
never	31.6	44.3	22.9	25.0	15.8

Table 3.35

Availability of Child Care Assistance

(Question: Is there usually someone around to take care of your children if you have to go to the dentist?

Response	Group and percent responding				
	US	UA	RS	RA	NA
.es	18.3	14.3	20.0	17.9	2.6
no	81.7	85.7	80.0	82.1	97.4

Table 3.36

Pain Anxiety Experienced During Dental Visits

Question: Because of anticipation of pain, how do you feel when at the dentist?

Response	Percentage of Group Responding				
	US	UA	RS	RA	NA
extremely afraid	15.2	14.3	5.7	7.1	5.3
afraid	15.2	12.9	8.6	10.7	21.1
somewhat unafraid	30.4	27.1	14.3	25.0	18.4
unafraid	38.0	45.7	71.4	57.1	55.3

3.03.05 Perceptual: The results of questions relative to susceptibility to tooth decay, its seriousness, and its prevention are provided in Tables 3.37 through 3.45. Also provided are responses about the same perceptions as they relate to two other illnesses for comparison purposes.

A higher percentage of Native Americans perceive tooth decay as not serious at all than any of the other groups. This finding was substantiated by statistical analysis (see Table 3.65), and is consistent with the group's responses about seriousness of other diseases. This group also responded most often as being able to prevent tooth decay (approximately 95%), while the two Spanish-speaking groups perceive so less often (approximately 47% and 51%).

Table 3.37

Perceived Severity of Tooth Decay

Response	Group and percent responding				
	US	UA	RS	RA	NA
very serious	41.1	32.9	48.6	32.1	5.3
quite serious	38.9	41.4	42.9	50.0	34.2
slightly serious	17.9	24.3	5.7	14.3	50.0
not serious at all	2.1	1.4	2.9	3.6	10.5

Table 3.38

Perceived Severity of Colds

Response	Group and percent responding				
	US	UA	RS	RA	NA
very serious	21.1	8.6	14.3	14.3	2.6
quite serious	26.3	12.9	17.1	10.7	18.4
slightly serious	45.3	70.0	62.9	71.4	65.8
not serious at all	7.4	8.6	5.7	3.6	13.2

Table 3.39

Perceived Severity of Polio

Response	Group and percent responding				
	US	UA	RS	RA	NA
very serious	83.4	87.1	77.1	96.4	78.9
quite serious	5.3	8.6	17.1	0.0	2.6
slightly serious	3.2	1.4	2.9	0.0	2.6
not serious at all	4.2	2.9	2.9	3.6	15.8

Table 3.40

Perceived Susceptibility to Tooth Decay

Question: How likely do you think it is that your child will get tooth decay during the coming year?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very likely	34.7	10.0	34.3	17.9	2.6
somewhat likely	50.5	62.9	57.1	39.3	10.5
somewhat unlikely	9.5	14.3	8.6	28.6	39.5
very unlikely	5.3	12.9	0.0	14.3	47.4

Table 3.41

Perceived Susceptibility to Colds

Question: How likely do you think it is that your child will get colds during the coming year?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very likely	55.8	10.0	34.3	17.9	2.6
somewhat likely	32.6	62.9	57.1	39.3	10.5
somewhat unlikely	7.4	14.3	8.6	28.6	39.5
very unlikely	4.2	12.9	0.0	14.3	47.4

Table 3.42

Perceived Susceptibility to Polio

Question: How likely do you think it is that your child will get polio during the coming year?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very likely	6.3	1.4	0.0	0.0	2.6
somewhat likely	10.5	0.0	8.6	0.0	2.6
somewhat unlikely	28.4	2.9	45.7	3.6	0.0
very unlikely	54.7	95.7	45.7	96.4	94.7

Table 3.43

Likelihood of Preventing Tooth Decay

Question: How good would you say the chances are of preventing tooth decay?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very good	11.6	25.7	17.1	42.9	63.2
good	35.8	44.3	34.3	35.7	31.6
fair	44.2	24.3	45.7	21.4	5.3
poor	8.4	5.7	2.9	0.0	0.0

Table 3.44

Likelihood of Preventing Colds

Question: How good would you say the chances are of preventing colds?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very good	20.0	11.4	17.1	32.1	60.5
good	27.4	24.3	31.4	32.1	26.3
fair	37.9	27.1	48.6	10.7	7.9
poor	14.7	37.1	2.9	25.0	5.3

Table 3.45

Likelihood of Preventing Polio

Question: How good would you say the chances are of preventing polio?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very good	54.3	85.7	54.3	96.4	89.5
good	21.3	8.6	31.4	0.0	7.9
fair	18.1	2.9	8.6	0.0	0.0
poor	6.4	2.9	5.7	3.6	2.6

3.03.06 Other Considerations: Mode of transportation, aesthetic considerations, and degree of satisfaction with mouth condition might be factors related to dental care practices. Responses to these questions are presented in Tables 3.46 through 3.51. Transportation mode responses agree with what would be expected from residential considerations. Importance of good dental appearance for making friends was expressed as a concern most often by the rural Spanish-speaking and the Native American groups although all groups actually considered dental appearance important in all situations considered.

Satisfaction with mouth condition of both mother and child was expressed most often by the Native American group. Dissatisfaction was expressed most often by the two Spanish-speaking groups.

Table 3.46

Transportation Mode Used When Visiting the Dentist

Mode	Group				
	US	UA	RS	RA	NA
drive own car	79.6	94.2	100.0	89.3	89.5
driven by other	14.0	2.9	--	7.1	10.5
bus or cab	--	--	--	3.6	--
walk	6.5	2.9	--	--	--

Table 3.47

Aesthetic Considerations I

Question: How important do you think it is to have nice looking teeth when making friends?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very	58.9	34.3	71.4	28.6	65.8
somewhat	27.4	42.9	20.0	53.6	26.3
not very	10.5	20.0	8.6	10.7	7.9
not at all	3.2	2.9	0.0	7.1	0.0

Table 3.48

Aesthetic Considerations II

Question: How important do you think it is to have nice looking teeth when getting a job?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very	66.3	42.9	71.4	42.9	60.5
somewhat	22.1	47.1	28.6	46.4	26.3
not very	9.5	8.6	0.0	7.1	10.5
not at all	2.1	1.4	0.0	3.6	2.6

Table 3.49

Aesthetic Consideration, III

Question: How important do you think it is to have nice teeth when it comes to dating among young people?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very	68.4	55.7	82.9	53.6	63.2
somewhat	26.3	40.0	14.3	39.3	31.6
not very	5.3	4.3	2.9	3.6	5.3
not at all	0.0	0.0	0.0	3.6	0.0

Table 3.50

Expressed Satisfaction with Mouth Condition

Question : How satisfied are you with the condition of your teeth and gums?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very well	23.2	27.1	40.0	50.0	60.5
fairly well	33.7	40.0	31.4	25.0	26.3
not very	29.5	21.4	20.0	10.7	7.9
dissatisfied	13.7	11.4	8.6	14.3	5.3

Table 3.51

Expressed Satisfaction with Child's Mouth Condition

Question: How satisfied are you with the condition of your child's teeth and gums?

Response	Group and percent responding				
	US	UA	RS	RA	NA
very well	23.2	41.4	11.4	35.7	60.5
fairly well	36.8	40.0	34.3	39.3	26.3
not very	28.4	14.3	48.6	21.4	13.2
dissatisfied	11.6	4.3	5.7	3.6	0.0

3.03.07 Frequency of Dental Visits: Frequency of dental care visits for mothers was greater among the urban Anglo group. 61.4% of the respondents claim check-up visits at least once per year. This group was followed by the Native American with 39.5%. Lowest check-up frequency of visits was found for the rural Spanish-speaking group. Only 25.7% claimed to visit the dentist at least once per year. 48.6% of this group frequent the dentist only when there is need and 25.7% claim to never seek dental care.

Approximately an equal percentage of rural Spanish-speaking and rural Anglos seek dental care only when the need is felt (48.6% vs. 50.0%); but a larger percentage of the rural Spanish-speakers (25.7%) claim never to see a dentist. This figure is larger than that for the rural Anglos (3.6%).

Frequency of dental care visits then was highest for the urban Anglo and lowest for the rural Spanish-speaking, with an almost equally high percentage of Spanish-speaking rural and urban members stating that they never see a dentist. The Native American respondent ranked second in percentage visiting the dentist once a year or more often. 39.5% of the Native Americans responded that they have yearly check-ups; 26.3% claim that they never see the dentist only when there is need; and 18.4% never see a dentist for a regular check-up.

The same question directed at child frequency of care showed that 100% of the Native American children are examined at least once a year. This figure is followed by 74.3% for urban Anglo children, 43.1% for urban Spanish-speaking, 42.3% for rural Anglo and 35.3% for rural Spanish-speaking. Highest frequency of "never" responses were recieved from urban Spanish-speaking with 40% of respondents stating their children never visit the dentist for a regular check-up. The urban Spanish-speaking and the rural Anglo exhibit similar percentage point disparity between percentage of parents who see the dentist for regular check-ups at least once a year and whose children never do so. This 25.5% of urban Spanish-speaking respondents and 40.0% of their children do not visit a dentist on a regular basis and 3.6% of rural Anglo respondents and 19.2% of their children fail to do so also. A more detailed breakdown is provided in Tables 3.52 and 3.53.

Frequencies of regular medical care are provided in Table 3.54.

Table 3.52

Frequency of Dental Visits (Mother)

Period	Group and percent responding				
	US	UA	RS	RA	NA
six months	9.6	27.1	5.7	7.1	5.3
yearly	24.5	34.3	20.0	28.6	34.2
only when need exists	27.7	14.3	48.6	50.0	26.3
never	25.5	17.1	25.7	3.6	18.4

Table 3.53

Frequency of Dental Visits (Child)

Period	Group and percent of responding				
	US	UA	RS	RA	NA
every 6 months	8.4	38.6	5.9	15.4	5.3
yearly	34.7	35.7	29.4	26.9	94.7
only when need exists	9.5	4.3	41.3	30.8	--
never	40.0	17.1	17.6	19.2	--

Table 3.54

Frequency of Regular Medical Examination (Mother)

Period	Group and percent responding				
	US	UA	RS	RA	NA
six months	12.6	15.7	5.7	10.7	5.3
yearly	55.8	61.4	48.6	50.0	36.8
2 years	3.2	7.1	11.4	14.3	39.5
other	28.4	15.7	34.3	25.0	18.4

3.03.08 Reasons for Dental Visits (Mother): Reasons given by respondents for visiting the dentist ranged from the preventive regular check-up to the symptomatic one of bleeding gums or toothache. The percentage of persons responding that their visits are preventive in nature was highest for the urban Anglo group while lowest for the rural Spanish-speaking. Highest symptomatic response belongs to this latter group. Response percentages are provided in Table 3.55

3.03.08 Reasons for Dental Visits (Child): Indicators of symptomatic treatment for children agrees with adult figure breakdown regarding symptomatic dental care. That is, the percentage of children who receive dental care because of toothaches or bleeding gums is highest for the rural Spanish-speaking group. This is indicated in Table 3.56.

Table 3.55

Reasons for Dental Visits and Percentage Responding - Mother

Reasons	Group				
	US	UA	RS	RA	NA
regular check-up	34.7	44.3	14.3	32.1	31.6
toothache	27.4	10.0	25.7	17.9	44.7
bleeding gums	0.0	1.4	28.6	0.0	2.6
continuation of dental work	21.1	22.9	28.6	35.7	5.3
other	16.8	12.4	31.4	14.3	15.8

Table 3.56

Reasons for Dental Visits and Percentage Responding - Child

Reasons	Group				
	US	UA	RS	RA	NA
regular check-up	29.5	64.7	20.0	40.0	100.0
toothache	11.6	2.9	25.7	15.0	--
bleeding gums	1.1	1.5	--	--	--
continuation of dental work	18.9	19.1	17.1	35.0	--
other	38.9	11.8	37.1	10.0	--

3.04.00 Technical Indices

3.04.01 Condition of Teeth and Gums: Results of dental examinations of both mother and child are provided in Tables 3.57 through 3.62. The percent of examinees in each range of decayed, missing, and filled teeth are indicated for each group. A higher percentage of Native Americans are indicated in the eight to twelve range of decayed teeth although as shown later, this was not statistically significant. The reason for this showing was undoubtedly the small number of Native American mothers examined which also makes the statistical showing of this group doubtful.

Children distributions are more similar among the groups and the statistical comparisons more meaningful. In both cases, mother and child, the percentage of examinees with filled teeth was highest for the urban Anglo American.

Table 3.57

Number of Decayed Teeth (Mother)

Range no. decayed teeth	Group and percent in range				
	US	UA	RS	RA	NA
0	40.0	63.2	46.7	50.0	25.0
1 - 3	35.5	23.2	46.7	41.7	25.0
4 - 7	13.3	10.5	6.7	8.3	0.0
8 -12	8.9	0.0	0.0	0.0	50.0
> 12	2.3	2.6	0.0	0.0	0.0

Table 3.58

Missing Teeth (Mother)

Range: no. missing teeth	Group and percent in range				
	US	UA	RS	RA	NA
0	21.7	17.9	14.3	16.7	33.3
1 - 5	43.5	56.5	19.1	50.0	33.3
6 -10	15.2	10.3	14.3	8.3	33.3
11 -15	13.0	7.8	4.8	0.0	0.0
16 -20	4.4	2.6	4.8	16.6	0.0
21 -25	0.0	0.0	19.1	8.3	0.0
26 -30	0.0	0.0	0.0	0.0	0.0
> 30	2.2	2.6	23.8	0.0	0.0

Table 3.59

Filled Teeth (Mother)

Range	Group and percent in range				
	US	UA	RS	RA	NA
0	37.8	10.5	33.3	16.7	33.3
1 - 5	37.8	13.2	33.3	41.7	33.3
6 - 10	17.7	26.4	20.0	25.0	33.3
11 - 15	6.6	31.6	13.3	16.6	0.0
16 - 20	0.0	15.8	0.0	0.0	0.0
21 - 25	0.0	2.6	0.0	0.0	0.0
> 25	0.0	0.0	0.0	0.0	0.0

Table 3.60

Decayed Teeth (Child)

Range: number of decayed teeth	Group and percent in range				
	US	UA	RS	RA	NA
0	60.5	81.5	59.3	64.7	73.7
1 - 3	34.9	18.5	29.6	35.3	26.3
4 - 7	4.6	0.0	11.1	0.0	0.0
8 - 12	0.0	0.0	0.0	0.0	0.0
> 12	0.0	0.0	0.0	0.0	0.0

Table 3.61

Missing Teeth (Child)

Range: number of missing teeth	Group and percent in range				
	US	UA	RS	RA	NA
0	97.7	88.9	100.0	100.0	94.7
1 - 3	2.3	3.7	0.0	0.0	5.3
3 - 6	0.0	7.4	0.0	0.0	0.0
> 6	0.0	0.0	0.0	0.0	0.0

Table 3.62

Filled Teeth (Child)

Range: number of filled teeth	Group and percent in range				
	US	UA	RS	RA	NA
0	65.1	29.6	88.9	76.5	26.3
1 - 3	18.6	40.7	11.1	11.8	47.4
4 - 6	14.0	14.8	0.0	11.8	21.1
7 - 9	2.3	7.4	0.0	0.0	5.3
10 - 12	0.0	3.7	0.0	0.0	0.0
> 12	0.0	3.7	0.0	0.0	0.0

3.05.00 Factors

Thirty-seven non-technical factors were obtained by the combination of particular questions in the questionnaire, and seven technical indices were obtained by dental examinations. Factor names and the question number which make up each factor are listed below:

3.05.01 Non-Technical Factors:	Questions
Family size	2, 3
Respondent age	5
Spouse residing in same household	5
Pain anxiety index	13, 14
Transportation mode	16
Dental Knowledge	20, 21
Favorable perceptions about dentists	24
Index of doubt of dentist's technical competence	25, 26
Social Anxiety Index	27, 28, 29, 30, 31, 32, 33, 34, 35
Perceived financial barriers	36, 37, 38
Fatalism Index	39A, B, C, 40
Unimportance of aesthetic considerations	46A, B, C
Mouth dissatisfaction index (child)	47B
Perceived benefits of dental care	22, 23
Shopping radius	55
Degree of non-English usage	50, 51, 52
Parochialism index	31-35, 63, 65-68
Diet Factor 1	48, 53, 54, 56, 59, 64, 65, 71
Diet Factor 2	51, 52, 57, 60, 61, 62, 63, 66
Diet Factor 3	49, 68, 69, 70
Index of racial/religious intolerance	57-62

Non-Technical Factors	Questions
Hollingshead SE index	70, 72
Perceived seriousness of tooth decay relative to colds	43
Perceived seriousness of tooth decay relative to polio	43
Elapsed time since respondent's last dental visit	7
Perceived susceptibility to tooth decay relative to colds	44
Perceived susceptibility to tooth decay relative to polio	44
Symptomatic orientation to dental care for self	8
Frequency of respondent's dental visits	9
Elapsed time since child's last dental visit	10
Frequency of child's dental visits	12
Time to reach dentist's office	17
Family income	73
Ethnicity/residential indicator	6
Symptomatic orientation to dental care for child	11
Perceived friends' symptomatic orientation to dental care	48
Mouth dissatisfaction index (self)	47B

3.05.02 Technical Factors

number of decayed teeth

number of missing teeth

number of filled teeth

Periodontal index

Plaque index

number of prosthetic devices

number of lesions

3.06.00 Group Differences

Examination of a general hypothesis regarding the existence of group differences in (1) demographic characteristics, (2) psychological factors, (3) social factors, and (4) technical indices was carried out via analysis of variance and Duncan's multiple range tests. The results of the factor score comparison on demographic variables are presented in Table 3.63. Equal rank assigned to groups indicate that no significant difference existed between groups on that factor. The higher the rank assigned to a group, the higher the score of the group on that factor. Multiple assignments indicates that a group is actually between two differing ones and that group does not significantly differ from either extreme.

Subsequent tables show comparisons on social, psychological, and technical indices.

Table 3.63

Group Comparisons on
Demographic Factors

Index	F ratio	Sig. level	Group and Rank US	UA	RS	RA	NA
family size	12.2160	.01	2	1	2	1	3
respondent's age	5.3476	.01	2	1	2,3	2	3
socio-economic index	28.1719	.01	2	3	1,2	2	1
family income	24.1449	.01	3	4	2	3	1

Table 3.64

Group Comparisons on
Social Factors

Index	F ratio	Sig. level	Group and Rank US	UA	RS	RA	NA
dental knowledge	11.6018	.01	2	3	2	3	1
shopping radius	2035.1	<.001	1	1	2	2	2
usage of language not English	73.1261	.01	3	1	2	1	4
diet factor 1	41.5481	.01	2	3	2	4	1
diet factor 2	11.6986	.01	1	1	2	1,2	3
diet factor 3	2.414	.05	1	2	1,2	1	1,2
time to reach dentist	161.057	.001	1	1	2	1	2
perceived financial barriers	7.5175	.01	2	1	2	2	2
unimportance of aesthetic considerations	4.0370	.01	1	2	1	2	1
mouth dissatisfaction index	8.6739	.01	3	2	2,3	2	1
racial/religious intolerance index	10.5737	.01	1,2	1	4	2,3	4

Table 3.65

Group Comparisons on Psychological Factors

Factor	F ratio	Sig. level	Group and Rank US	UA	RS	RA	NA
pain anxiety index	2.3045	.05	3	2	1	2	2
favorable dentist perception	NS	--	-	-	-	-	-
doubt of technical competence of dentists	2.7866	.05	2	1	2	2	2
social anxiety index	12.1634	.01	2	1	2	1,2	3
fatalism index	12.3206	.01	2	1	2	2	2
perceived benefits of dental care	24.2992	.01	2	3	2	3	1
parochialism index	2.2948	.05	2	1	2	1	1,2
perceived seriousness of tooth decay relative to colds	3.9720	.01	2	2	2	2	1
perceived seriousness of tooth decay relative to polio	2.0695	.100	2	2	3	2	1
perceived susceptability to tooth decay relative to colds	24.5583	.01	1	1	1	1	2
perceived susceptability to tooth decay relative to polio	6.5925	.01	2	1	1,2	1,2	3
symptomatic orientation to dental care for self	2.4470	.05	1	1	2	1,2	1
symptomatic orientation to dental care for child	19.1282	.01	3	2	3	2	1

Table 3.66

Group Comparisons on Technical Indices
for Mothers

Index	F ratio	Sig. level	Group and Rank US	UA	RS	RA	NA
frequency of dental care	4.6988	.01	1	2	1	1,2	1
decayed teeth	5.9100	.01	1	1	2	1	1
missing teeth	1.7225	NS	-	-	-	-	-
filled teeth	4.6306	.01	1	2	1	2	1
periodontal status	1.9661	NS	-	-	-	-	-
plaque	3.9980	.01	1	1	1	2	2
number of prosthetics	4.3871	.01	1	1	2	2	1
number of lesions	1.2420	NS	-	-	-	-	-

Table 3.67

Group Comparisons on Technical Indices for Children

Index	F ratio	Sig. level	Group and rank US	UA	RS	RA	NA
frequency of dental care	11.6438	.01	1	2	1	1	2
decayed teeth	1.2375	NS	-	-	-	-	-
missing teeth	1.6035	NS	-	-	-	-	-
filled teeth	6.9516	.01	1	2	1	1	2
periodontal status	2.1035	.05	2	1	1,2	1,2	2
plaque	13.9650	.01	1	1	1	2	2
number of prosthetics	N/A	N/A	-	-	-	-	-
number of lesions	2.4113	.05	1	1	2	2	1

A summary of the statistical findings is presented in Part Five of this report.

3.07.00 Diet Analysis

The diet information obtained during the interview sessions was subjected to a principle components factor analysis based on frequency of consumption. The analysis was performed in order that factor scores be obtained for each respondent on each diet grouping. Factor analysis is a technique for grouping items having a common factor.

The twenty-five variables (question 56, Appendix A-1), were reduced to three forced factors via the factor analysis. Table 3.68 shows the foods, Table 3.69 shows the intercorrelation matrix of these twenty-five variables and Tables 3.70 - 3.72 show the factors, foods, and the factor loadings.

Five foods, bread, game, eggs, diet drinks, and coffee or tea failed to load on any of the three retained factors. The remaining twenty foods and their loadings are presented in Table 3.71.

The statistical information of Table 3.64 indicated highest scores on diet factor 1 for the two Anglo groups followed by the two Spanish groups with the Native American group scoring lowest. Highest score on diet factor 2 was obtained by the Native American while the urban Anglo group scored highest on diet factor 3. Mean scores for each group on each diet are shown in Table 3.73.

Table 3.68

Foods List

Variable No.	Food
1	coffee or tea
2	cocoa
3	soda pop
4	diet drinks
5	milk
6	cheese
7	dried beans
8	tortillas
9	bread
10	pork
11	beef
12	game
13	chicken
14	fish
15	vegetables
16	lettuce
17	tomatoes
18	chiles
19	carrots
20	fruit
21	eggs
22	cookies
23	cake
24	candy
25	rice

Table 3.69

Intercorrelations Among the Twenty-Five Foods

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
2	-.01																							
3	.13	.13																						
4	.10	.00	.11																					
5	-.04	-.02	-.13	-.06																				
6	.05	.05	.14	.09	.20																			
7	.04	.17	.05	-.09	.03	.16																		
8	-.07	.29	.16	.00	-.12	-.01	.50																	
9	.02	-.07	.08	.01	.09	.09	.00	-.13																
10	.05	.17	.29	.01	-.04	-.04	.19	.29	-.07															
11	.05	-.13	-.12	106	.26	.14	.01	-.18	.20	-.16														
12	.01	106	.09	.15	.08	.01	.10	.03	.05	.05	.09													
13	-.11	.26	.29	.07	.02	.18	.06	.25	.07	.35	-.10	.08												
14	.09	.02	-.04	.16	.18	.19	.10	.02	.06	.01	.20	.26	.05											
15	.01	-.14	-.09	.05	.26	.14	-.10	-.31	.20	-.16	.45	.17	-.08	.25										
16	-.07	-.01	107	.00	.29	.26	.00	-.03	.23	.01	.35	.07	.07	.16	.61									
17	-.06	.05	.17	.09	.12	.24	.03	.01	.15	.14	.14	.04	.25	.11	.26	.48								
18	-.07	.11	.12	-.03	-.04	.08	.52	.47	-.09	.07	-.07	-.04	.07	.03	-.05	.14	.17							
19	-.03	.15	.09	.02	.04	.19	.29	.24	-.01	.24	-.10	.15	.29	.14	.08	.17	.24	.22						
20	.00	.16	.06	.05	.15	.27	.04	.07	.07	.08	.17	.17	.16	.25	.24	.25	.32	.01	.35					
21	.19	.08	.04	.03	.01	.02	.12	.13	.00	.15	.09	-.16	.14	-.11	-.01	.08	-.02	.15	.19	.07				
22	-.11	.05	.06	.03	.10	.08	.04	-.02	.11	.04	.10	.03	.14	.00	.10	.30	.38	.08	.13	.13	.15			
23	.14	.02	.13	.08	.08	.03	.24	.02	.08	.11	.09	.21	.03	.17	.06	.10	.09	-.01	.16	.08	.20	.37		
24	.06	.05	.36	.01	.02	.04	.18	.08	.17	.20	.04	.13	.13	.11	.08	.12	.20	.06	.22	.05	.04	.31	.35	
25	.05	.26	.20	.04	-.16	.16	.30	.37	.00	.42	-.21	.07	.31	.15	-.18	-.03	.13	.22	.34	.20	.09	-.02	-.01	.18

Table 3.70

Varimax Rotated Factor Loadings for
Diet Factor No. 1

Food	Factor Loadings 1	2	3
cocoa	.45	-.07	.05
dried beans	.64	.11	-.11
tortillas	.76	-.12	-.14
pork	.50	-.13	.36
chicken	.47	.07	.29
chiles	.62	.14	-.28
carrots	.55	.28	.14
rice	.67	-.06	.15

Table 3.71

Varimax Rotated Factor Loadings for
Diet Factor No. 2

Food	Factor Loadings 1	2	3
milk	-.10	.51	-.10
cheese	.20	.46	.00
beef	-.28	.58	-.01
fish	.08	.41	.10
vegetables	-.29	.73	.03
lettuce	.02	.77	.07
tomatoes	.21	.55	.24
fruit	.23	.51	.09

Table 3.72

Varimax Rotated Factor Loadings for
Diet Factor No. 3

Food	Factor Loadings		
	1	2	3
soda pop	.29	-.10	.55
cookies	.07	.32	.40
cake	.06	.15	.58
candy	.19	.12	.64

Table 3.73

Mean Diet Scores for the Five Groups

Diet	Group US	UA	RS	RA	NA
1	21.05	25.89	20.69	28.90	17.16
2	14.82	14.36	16.46	14.93	19.37
3	11.66	12.03	12.09	10.93	12.03

The two Anglos exhibited significantly higher frequency of consumption scores on diet 1. The Native American group achieved a significantly higher score on diet 2 and the urban Anglo group scored highest on diet 3.

PART FOUR

Path Analysis Models of Dental Care Behavior

4.01.00 Background

The technique of path analysis is a statistical procedure for testing a hypothetical causal chain of behaviors. The models constructed essentially specify that one thing causes another. This may or may not be true, but the possibility of it being true can be investigated empirically through this technique.

Model construction is accomplished by examination of the associations among variables to arrive at clusters of variables that are highly correlated. A causal model is then established based on these clusters, and which is consistent with accepted theory or hypotheses. Testing of the model is then accomplished by examination of the significance and directionality of path coefficients between links in the causal chain.

4.02.00 Procedures

Models were constructed using a manual form of linkage analysis. Linkage analysis allows one to determine the clusters of variables in order to narrow the range of possible models. Several models were hypothesized for each group and for all groups combined. Each model was tested using a modified version of the Princeton University Office for Survey Research and Statistical Studies Interactive Path Analyzer Computer Program. The program was modified for use with New Mexico State University's computer facilities.

Final models were then checked with the data collected during the second year cross validation stage of the study. For purposes of cross validation, the study was replicated during year two and the data inserted into the first year model. Validation was performed on all except the Native American group. Some variations were encountered in path coefficients. Second year coefficients are shown enclosed in parentheses on each model.

The final models are shown in figures 4.01 through 4.06.

Factor intercorrelation, path coefficients and their standard errors, and residual paths and R^2 values are shown in Tables 4.01 through 4.23. Significance of path coefficients is shown by one asterisk (*), for a coefficient greater than its standard error, or two asterisks (**) for a path coefficient greater than twice its standard error. R-squared values refer to the amount of variance accounted for by the factors in the model.

Model TG

Path Analysis Model for Total Group
(N = 266)

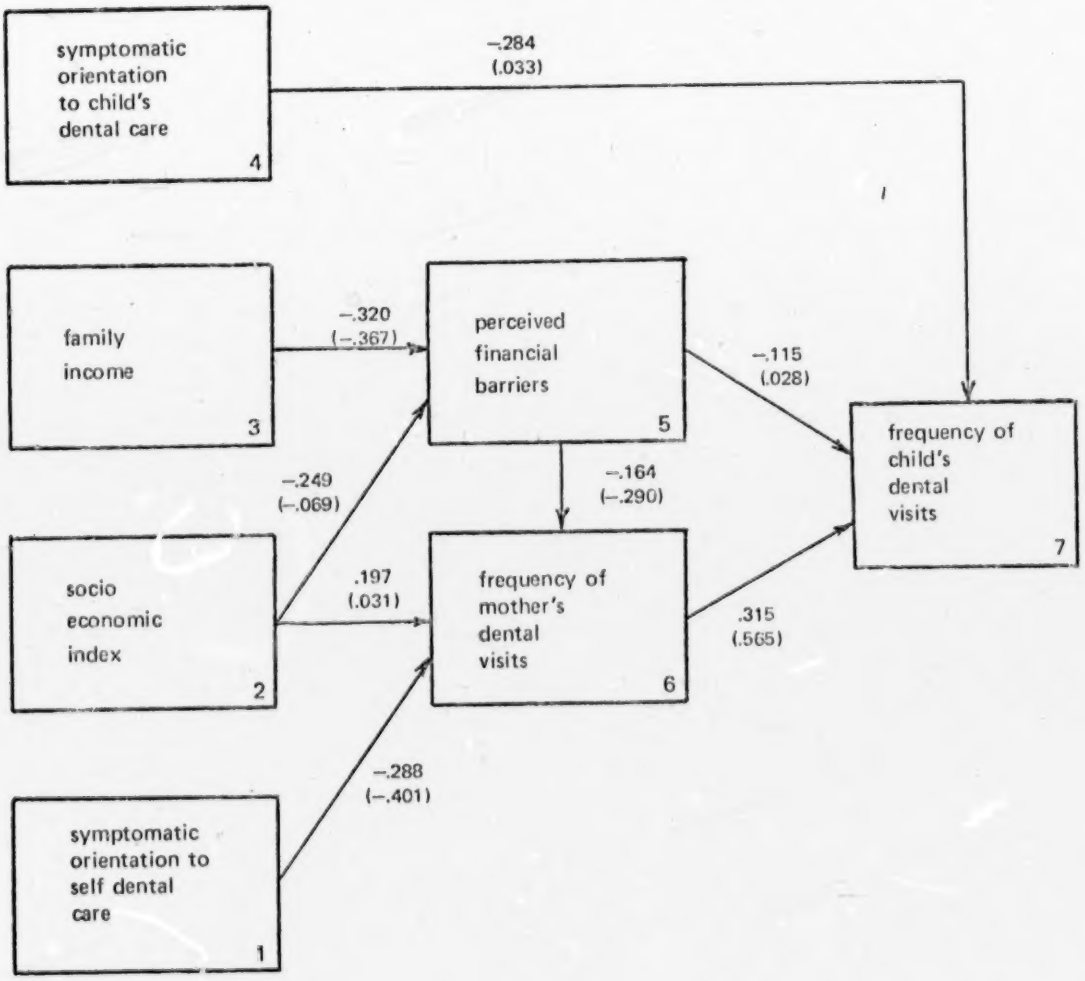

Figure 4.01

Table 4.01

Intercorrelations of Factors in Model TC Year 1

	1	2	3	4	5	6
2	-.03					
3	-.05	.44				
4	.14	-.14	-.04			
5	.10	-.39	-.43	.14		
6	.31	.27	.19	-.19	-.27	
7	-.15	.22	.20	-.36	-.24	.40

Table 4.02

Intercorrelations of Factors in Model TG Year 2

	1	2	3	4	5	6
2	-.36					
3	-.25	.33				
4	.29	-.14	-.11			
5	-.04	-.19	-.39	-.01		
6	-.40	.23	.33	-.20	-.28	
7	-.35	.18	.20	-.08	-.13	.55

Table 4.03

Path Coefficients and Standard Errors for Model TG

Path	Path Coefficients		Standard Error (±)	
	Year 1	Year 2	Year 1	Year 2
5, 2	-.249**	-.069	.069	.070
5, 3	-.320**	-.367**	.070	.075
6, 1	-.288**	-.401**	.064	.076
6, 2	.197**	.031	.067	.071
6, 5	-.164**	-.290**	.067	.070
7, 4	-.284**	.033	.064	.065
7, 5	-.115**	.028	.063	.067
7, 6	.315**	.565**	.067	.080

** absolute value of coefficient greater than twice the standard error

Table 4.04

Residual Paths and R-Squared for Model TG

Path	Coefficient		R-Squared*	
	Year 1	Year 2	Year 1	Year 2
5, A	.875	.919	.23	.16
6, B	.902	.867	.19	.25
7, C	.863	.834	.26	.30

* Amount of variance accounted for by factors in the model

Model US

Path Analysis Model for the Urban
Spanish-Speaking Group
(N = 90)

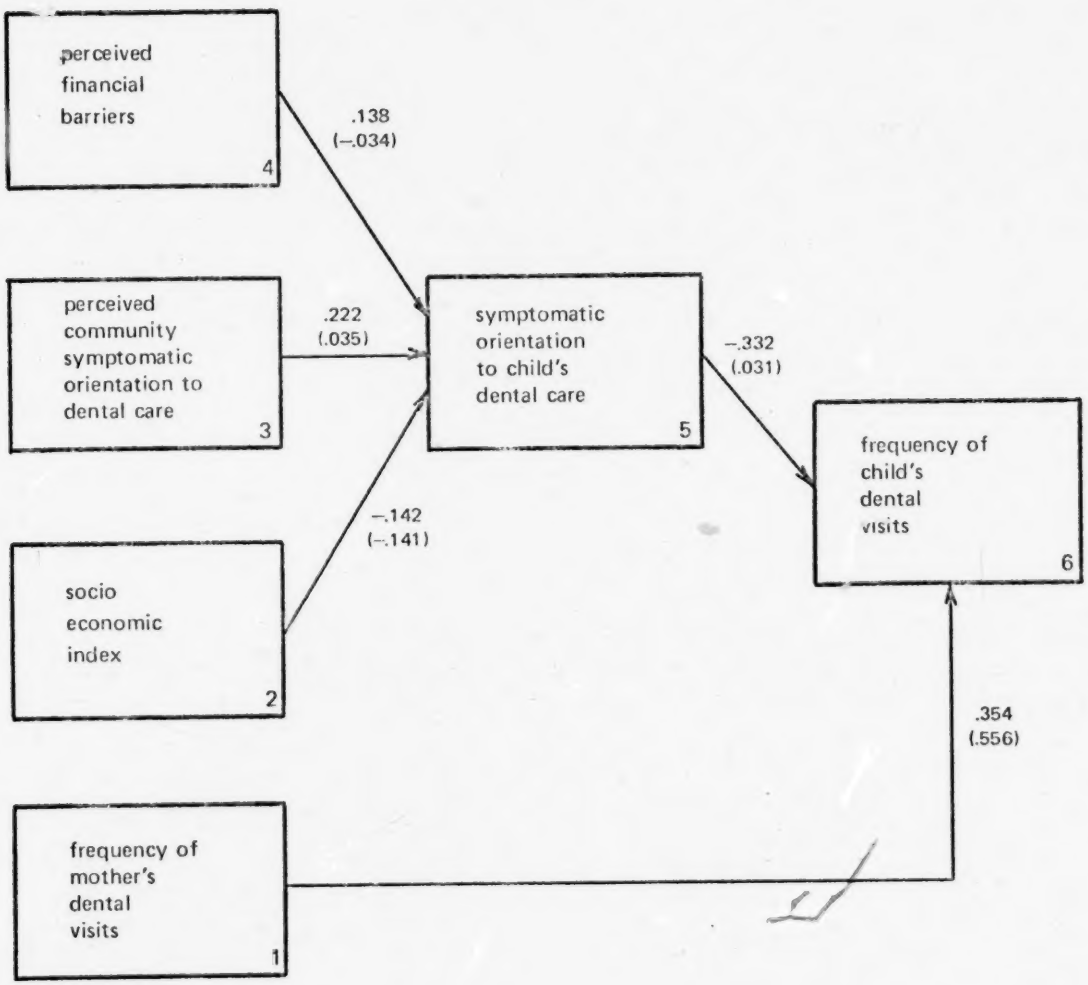

Figure 4.02

Table 4.05

Intercorrelations of Factors in Model US Year 1

	1	2	3	4	5
2	.13				
3	.05	-.15			
4	-.04	-.25	.12		
5	-.08	-.21	.26	.20	
6	.38	.20	-.13	-.17	-.36

Table 4.06

Intercorrelations of Factors in Model US Year 2

	1	2	3	4	5
2	.23				
3	-.01	-.16			
4	-.28	-.19	-.08		
5	-.20	-.14	.06	-.01	
6	.55	.18	.00	-.13	-.08

Table 4.07

Path Coefficients and Standard Errors For Model US

Path	Path Coefficient		Standard Error (±)	
	Year 1	Year 2	Year 1	Year 2
5, 2	-.142*	-.141*	.110	.113
5, 3	.222*	.037	.109	.110
5, 4	.138*	-.034	.109	.111
6, 1	.354**	.556**	.109	.125
6, 5	-.332**	.031	.108	.104

* absolute value of coefficient greater than the standard error
** absolute value of coefficient greater than twice the standard error

Table 4.08

Residual Paths and R-Squared For Model US

Path	Coefficients		R-Squared	
	Year 1	Year 2	Year 1	Year 2
5, A	.941	.989	.12	.02
6, B	.864	.835	.25	.30

Model UA

Path Analysis Model for the Urban
Anglo American Group
(N = 70)

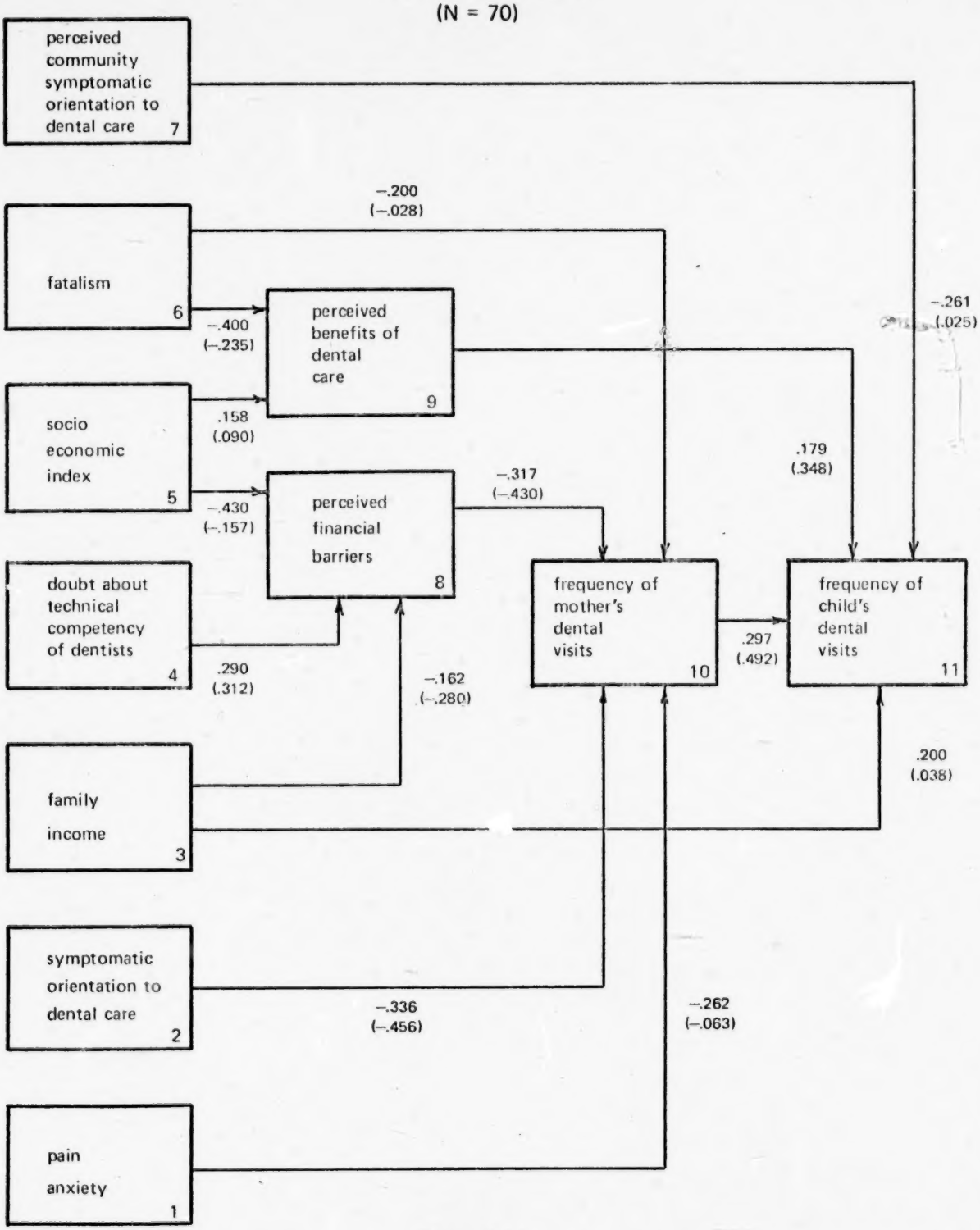

Figure 4.03

Table 4.09

Intercorrelations Among Factors in Model UA Year 1

	1	2	3	4	5	6	7	8	9	10
2	.06									
3	.13	-.19								
4	.03	.06	-.13							
5	.01	-.01	-.07	.12						
6	-.03	.13	-.10	.04	-.17					
7	.11	.12	.22	-.05	-.13	.02				
8	.00	-.10	-.31	.33	-.10	.23	-.08			
9	.01	-.12	.14	-.14	.13	-.25	.00	-.34		
10	-.09	-.42	.26	-.17	.10	-.18	-.19	-.39	.24	
11	-.08	-.31	.22	-.44	.03	-.10	-.06	-.54	.47	.58

Table 4.10

Intercorrelations Among Factors in Model UA Year 2

	1	2	3	4	5	6	7	8	9	10
2	.06									
3	.13	-.19								
4	.03	.06	-.13							
5	.01	-.01	-.07	.12						
6	-.03	.13	-.10	.04	-.17					
7	.11	.12	.22	-.05	-.13	.02				
8	.00	-.10	-.31	.03	-.20	.23	-.08			
9	.01	-.12	.14	-.14	.13	-.25	.00	-.34		
10	-.09	-.42	.26	-.17	.10	-.18	-.19	-.39	.24	
11	-.08	-.31	.22	-.44	.03	-.10	-.06	-.54	.47	.58

Table 4.11

Path Coefficients and Standard Errors for Model UA

Path	Path Coefficients		Std. Errors (±)	
	Year 1	Year 2	Year 1	Year 2
8, 3	-.162*	-.280*	.119	.141
8, 4	.290*	.312**	.124	.143
8, 5	-.430**	-.157*	.132	.136
9, 5	.158*	.090	.130	.137
9, 6	-.400**	-.235*	.139	.140
10, 1	-.262**	-.063	.124	.128
10, 2	-.336**	-.456**	.124	.149
10, 6	-.200*	-.024	.119	.133
10, 8	-.317**	-.430**	.129	.149
11, 3	.200*	.038	.125	.133
11, 7	-.261**	.025	.127	.130
11, 9	.179*	.347**	.126	.139
11, 10	.296**	.492**	.132	.157

* absolute value of coefficient greater than the standard error
** absolute value of coefficient greater than twice the standard error

Table 4.12

Residual Paths and R-Squared for Model UA

Path	Coefficients		R-Squared	
	Year 1	Year 2	Year 1	Year 2
8,A	.805	.891	.35	.21
9,B	.876	.964	.23	.07
10,C	.738	.794	.46	.37
11,D	.840	.738	.29	.45

Model RS

Path Analysis Model for the Rural
Spanish-Speaking Group
(N = 35)

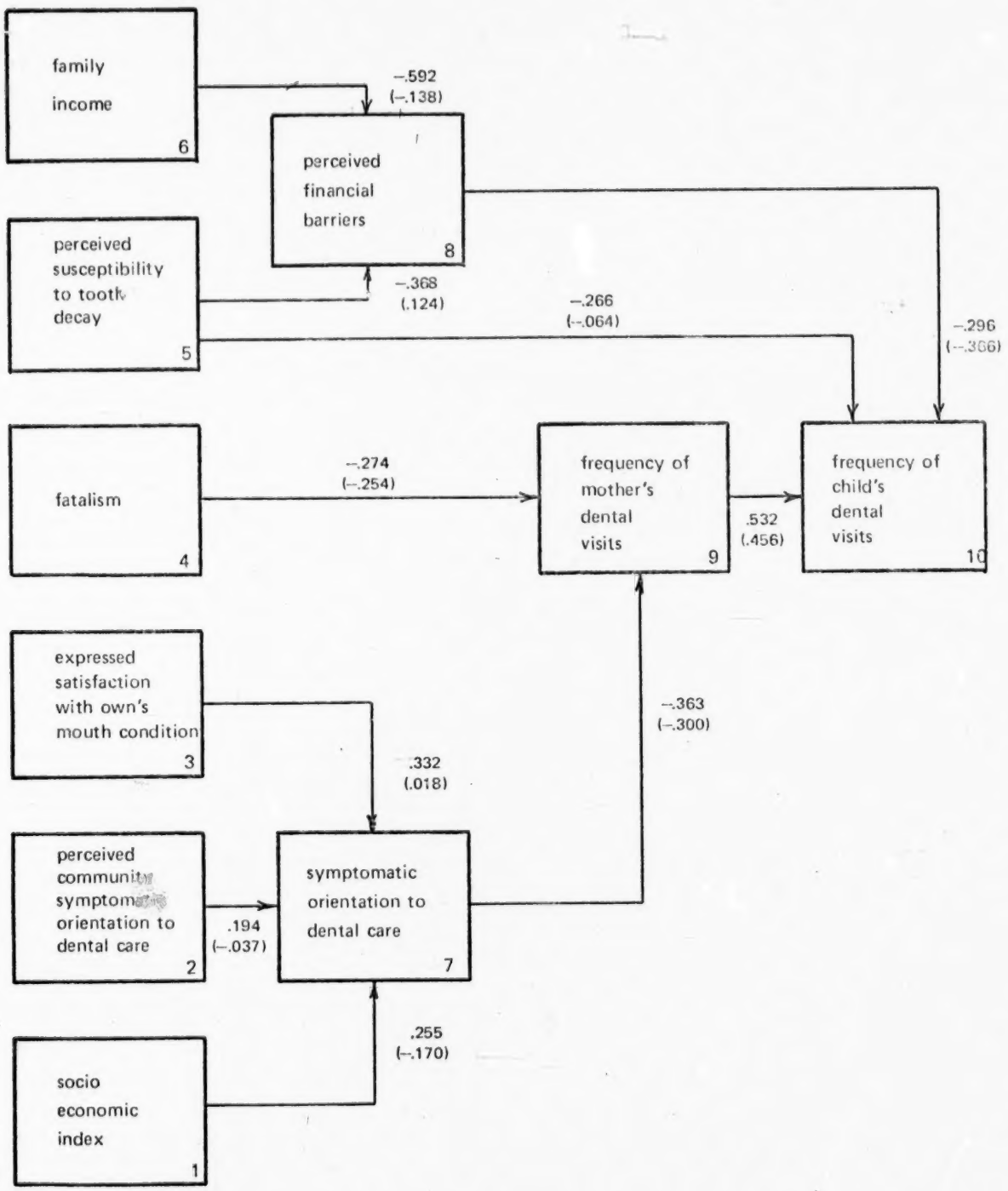

Figure 4.04

Table 4.13

Intercorrelations Among Factors in Model RS Year 1

	1	2	3	4	5	6	7	8	9
2	.13								
3	.06	.22							
4	-.03	.16	.06						
5	.20	.10	.02	.14					
6	.17	-.03	-.02	-.03	-.25				
7	.30	.30	.39	-.12	.21	.14			
8	-.12	-.15	-.02	-.18	-.22	-.50	.08		
9	.08	-.10	-.15	-.23	-.28	.15	-.33	-.08	
10	.03	.11	.14	- .09	-.35	.35	-.07	-.28	.63

Table 4.14

Intercorrelations Among Factors in Model RS Year 2

	1	2	3	4	5	6	7	8	9
2	.04								
3	.06	-.33							
4	-.33	.15	-.19						
5	.00	-.13	.20	-.02					
6	.03	-.07	.13	-.26	.03				
7	-.17	-.05	.02	.12	-.07	.04			
8	-.31	-.05	-.19	.15	.12	-.13	.04		
9	.25	.05	.27	-.29	-.07	-.09	-.33	-.19	
10	.30	.13	.20	-.14	-.14	.21	-.30	-.46	.53

Table 4.15

Path Coefficients and Standard Errors for Model RS

Path	Path Coefficients		Standard Errors (±)	
	Year 1	Year 2	Year 1	Year 2
7, 1	.255*	-.170	.182	.183
7, 2	.194*	-.037	.183	.191
7, 3	.332*	.018	.190	.191
8, 5	-.368*	.124	.186	.178
8, 6	-.592**	-.134	.209	.178
9, 4	-.274*	-.254*	.183	.182
9, 7	-.363*	-.300*	.188	.185
10, 5	-.266*	-.064	.176	.165
10, 8	-.296*	-.366*	.173	.185
10, 9	.532**	.456**	.201	.193

* absolute value of coefficient greater than the standard error
** absolute value of coefficient greater than twice the standard error

Table 4.16

Residual Paths and R-Squared for Model RS

Path	Coefficient		R-Squared	
	Year 1	Year 2	Year 1	Year 2
7, A	.858	.984	.26	.03
8, B	.789	.984	.38	.03
9, C	.904	.910	.18	.17
10, D	.699	.762	.51	.42

Model RA

Path Analysis Model for the Rural
Anglo American Group
(N = 28)

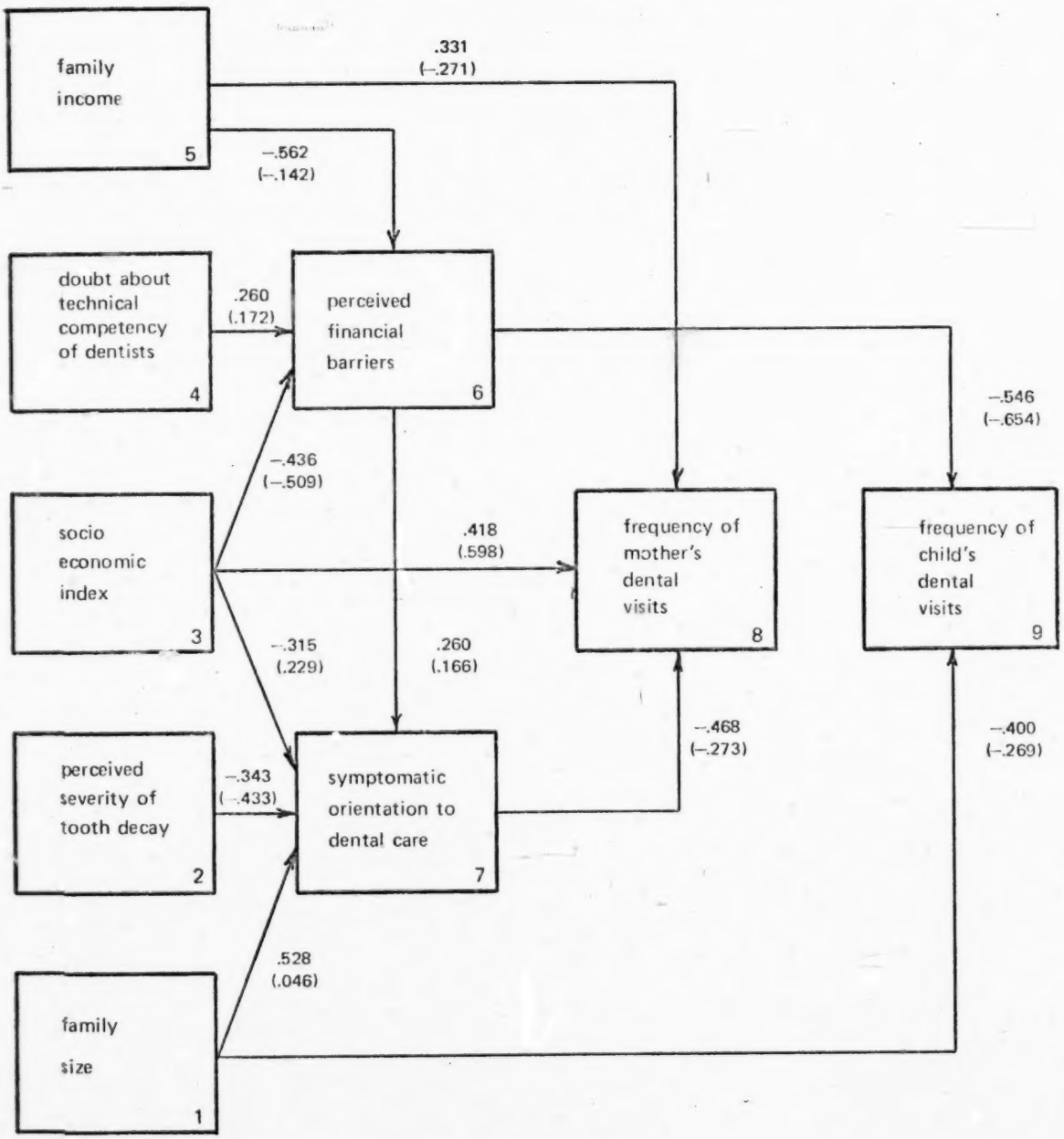

Figure 4.05

Table 4.17

Intercorrelations Among Factors in Model RA Year 1

	1	2	3	4	5	6	7	8
2	-.05							
3	.17	.04						
4	-.05	.09	-.08					
5	.19	-.08	-.19	-.08				
6	.11	.20	-.35	.34	-.50			
7	.52	-.33	-.33	.15	-.11	.36		
8	-.19	.00	.51	-.18	.20	-.40	-.57	
9	-.46	-.18	.29	-.17	.16	-.59	-.26	.28

Table 4.18

Intercorrelations Among Factors in Model RA Year 2

	1	2	3	4	5	6	7	8
2	-.01							
3	-.30	.27						
4	-.59	.12	.38					
5	-.07	.06	.61	.13				
6	.17	-.11	-.53	-.04	-.43			
7	.01	-.39	.01	-.28	.27	.10		
8	-.11	.15	.43	.25	.02	-.63	-.34	
9	-.38	.08	.60	.41	.15	-.70	-.24	.88

Table 4.19

Path Coefficients and Standard Errors for Model RA

Path	Path Coefficients		Standard Errors ( )	
	Year 1	Year 2	Year 1	Year 2
6, 3	-.436**	-.509*	.209	.410
6, 4	.260*	.172	.187	.304
6, 5	-.562**	-.142	.228	.351
7, 1	.528**	.046	.224	.312
7, 2	-.343*	-.433*	.197	.340
7, 3	-.315*	.229	.204	.381
7, 6	.260*	.166	.201	.354
8, 3	.418*	.598*	.212	.403
8, 5	.331*	-.271	.194	.374
8, 7	-.468**	-.273	.217	.302
9, 1	-.400**	-.269*	.199	.251
9, 6	-.546**	-.654**	.219	.325

* absolute value of coefficient greater than the standard error
** absolute value of coefficient greater than twice the standard error

Table 4.20

Residual Paths and R-Squared for Model RA

Path	Coefficient		R-Squared	
	Year 1	Year 2	Year 1	Year 2
6, A	.691	.822	.52	.32
7, B	.644	.901	.59	.19
8, C	.673	.810	.55	.34
9, D	.703	.976	.51	.56

Model NA

Path Analysis Model for the Native American Group
(N = 38)

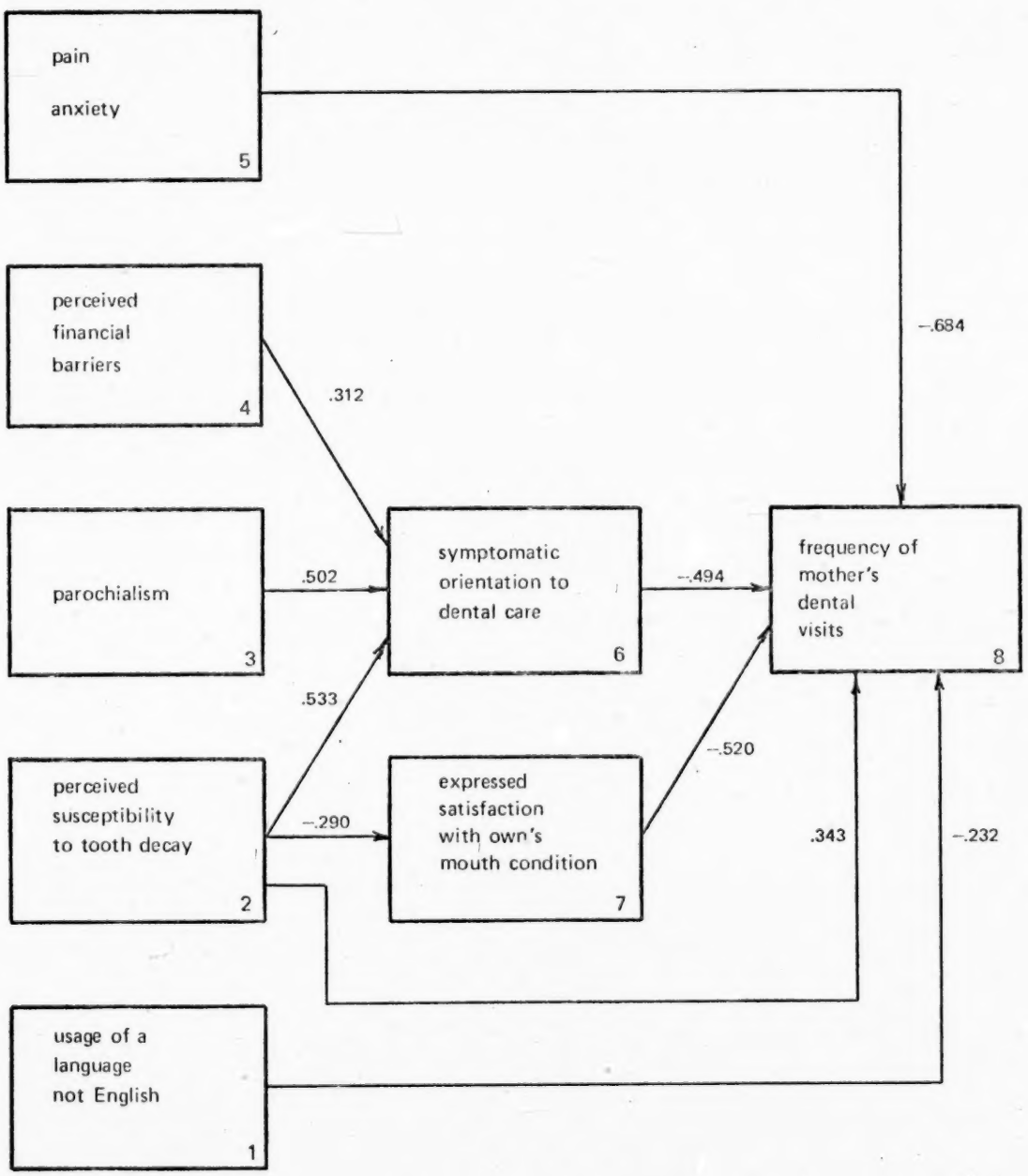

Figure 4.06

Table 4.21

Intercorrelations Among Factors in Model NA

	1	2	3	4	5	6	7
2	.01						
3	.08	-.28					
4	.60	-.20	-.01				
5	-.03	.10	-.15	.00			
6	.27	.33	.35	.20	-.31		
7	-.08	-.29	.14	-.09	-.25	-.06	
8	-.30	.26	-.24	-.26	-.36	-.20	-.40

Table 4.22

Path Coefficients and Standard Errors for Model NA

Path	Path Coefficient	Standard Error (±)
6, 2	.533**	.199
6, 3	.502**	.193
6, 4	.312*	.172
7, 2	-.290*	.174
8, 1	-.232*	.141
8, 2	.343**	.161
8, 5	-.684**	.210
8, 6	-.494**	.181
8, 7	-.520**	.180

* absolute value of coefficient greater than the standard error
** absolute value of coefficient greater than twice the standard error

Table 4.23

Residual Paths and R-Squared for Model NA

Path	Coefficient	R-Squared
6, A	.766	.41
7, B	.957	.08
8, C	.537	.71

4.03.00 Summary

Economic factors appeared consistently in all of the models either as Hollingshead socioeconomic index of occupation and education, family income, or perceived financial barriers. The variable that appears to most influence child dental care behavior is mother dental care habits. The terminal variable for the Native American group was frequency of mother's dental visits and not child's visits because there was no variation in the latter response. The reason for this may be the efforts of the U. S. Public Health Service in treating the children through the schools.

A symptomatic orientation to dental care appears in all models as a direct influence of the terminal behaviors. The association is negative implying that the higher the degree of symptomatic orientation, rather than preventive, the less frequent an individual seeks dental care. A further discussion of the findings is found in Part Five.

PART FIVE

Summary of Findings and Recommendations

5.01.00 Introduction

This section contains a description of the findings of the statistical analyses of group comparisons on the various factors, summary of the causal models, conclusions based on findings, and recommendations regarding possible courses of action for change.

5.02.00 Demographic Factors

The Native-American group has both the largest family size unit and greater mean age of those interviewed while having the lowest income and socio-economic status. The urban Anglo American group is at the other end of the rank. This group has the smallest family and the highest income and socio-economic status.

The rural and urban Spanish-speaking groups do not differ in size of family, age, or socio-economic index while the rural and urban Anglo groups failed to differ only on family size. The rural Anglo group is more similar in these four indices to the urban Spanish-speaking group than it is to the urban Anglo. The two most disparate groups were the urban Anglo and the Native American.

5.03.00 Social Factors

Comparisons on social factors show differences among the groups on all factors examined. The strongest differences (sig. level = .001) shown are not particularly surprising since shopping radius and time to reach dentist's office are functions of residential grouping. The findings indicate that the two Anglo groups exhibited a higher score on dental knowledge, diet number one (see following section), and on unimportance given to dental appearance. The urban Anglo group scored lowest on financial barriers. This is consistent with the index of socio-economic status and family income findings. The urban Spanish-speaking group indicated the highest degree of mouth dissatisfaction; the Native-American scored the lowest.

The factor, "racial/religious intolerance," might be viewed as an index of degree of ethnic identification. The rural Spanish and the Native American groups scored significantly higher than the other three groups. This is somewhat consistent with our findings on parochialism.

5.04.00 Psychological Factors

The Native American group obtained statistically significant lower scores on perceived severity of tooth decay but higher scores on susceptibility to it. This group also achieved the lowest scores on the perceived benefits of dental care. The two Spanish-speaking groups scored highest on symptomatic orientation toward dental care for their children (as opposed to preventive orientation).

5.05.00 Technical Factors

There were no significant differences among the groups on the number of decayed or missing teeth for children. However, there was a significant difference in the number of filled teeth. The urban Anglo and the Native American group were both significantly higher than the other three groups, and equal to each other on this factor. This finding may be accounted for by the economic standing of the urban Anglo group and by the U. S. Public Health Service efforts for the Native American children.

Higher scores on periodontal status and plaque indicate a less desirable condition. Barely significant differences were found on periodontal status of children and no significant differences were found among mothers. There were significant differences on plaque scores among the groups. Rankings for both mothers and children were identical on this score; the rural Spanish-speaking and the Native American group scored higher than the others but there was no difference between these two groups. High scores on this scale indicate a need for improvement of oral hygiene practices.

5.06.00 Discussion of Models

In this section, each model developed is examined in turn and significant aspects of each are pointed out.

5.06.01 Model TG: This model was developed from analysis of data for the five groups and checked for validation with data from all but the Native American group. Not all path coefficients withstood the validation check. Reasons for this can be advanced which might also be applied to the other models. The exclusion of the Native American group in the second phase may have altered the characteristics of the population. Furthermore, the rural Spanish-speaking group for the second year effort was located in southern New Mexico while that for the first was in northern New Mexico. It has been suggested that despite single classifications along residential-ethnic lines, these two groups are actually very dissimilar in perceptual/attitude characteristics. This difference may have been reflected in the causal models and path coefficients.

The links that survived the validation process, and in fact increased in path coefficient size contain the following variables: family income, perceived financial barriers, symptomatic orientation to dental care, frequency of mother's dental visits and frequency of child's dental visits.

The relationship found by Raynor (1970) between mother and child dental health practices is supported by this and by all other models, except one, where the two factors are considered. In all such cases, a very strong positive path coefficient exists between the two, with the causal chain proceeding from mother to child practice. Validated determinants of mother behavior are two: symptomatic orientation and financial barriers. Perceptions of financial barriers to dental care appear to arise as a result of income situation.

5.06.02 Model US: In this model, as in Model TG, mother behavior is the strongest determinant of child behavior. Furthermore, it appears that symptomatic attitude toward dental care is largely affected by socio-economic status. The S-E index used in the study consists of educational background and occupational status. This fact may provide a clue to the avenues available for alteration of this symptomatic orientation to a preventive one.

5.06.03 Model UA: Symptomatic orientation and perceived financial barriers are the most important determinants of mother behavior, which in turn affects child behavior. In this model, both socio-economic status and family income affect the degree to which the respondent considers financial matters impediments to dental care. It may be that this group considers factors other than the cost of dental care before deciding on its worth. In fact, perceived benefits of dental care appears to influence mothers' behavior as regards dental care for their children. Perceived benefits, in turn, are determined partly by socio-economic status.

Another factor which figures in the degree to which financial matters are considered is the confidence placed in the technical competency of dentists in general. A reduced confidence may result in a greater consideration of the cost/benefit returns of dental care.

5.06.04 Model RS: Once more, symptomatic orientation appears as the important causal factor of mothers dental care practices and the latter as influencing child care practices.

Financial considerations appears in the chain as a determinant of child care but not of parent care. This assumption of financial burdens may not be worth the rewards of child dental care. Metzner (1960) cites the results of another rural study in which parents considered deciduous teeth unimportant and other problems of children's teeth of little significance.

Perceived financial barriers appear to be determined by family income and not by socio-economic (education) factors. This was true of the urban Spanish-speaking group as well.

Fatalistic orientation appears as a direct effect on mother dental care practices. This finding agrees with that of Mechanic (1964).

5.06.05 Model RA: Mother[illegible]l care behavior has three determinants: income, socio-economic status, and a[illegible]matic orientation to dental care.

Child care practice is determined largely by perceived financial barriers and family size. It is characteristic of the two rural groups that the former

factor affects treatment of child and not of parent. Metzner's (1969) finding may also apply here.

Socio-economic status appears in the causal chain preceding perceived financial barriers. This was also true of the other Anglo group. Also true was the appearance of the variable related to confidence in the technical competency of dentists as a factor in whether or not costs of dental work were considered a barrier to dental care.

5.06.06 Model NA: Several new factors appear in this model that were not present in the others. Expressed satisfaction with dental condition, pain anxiety (fear of pain), and usage of a language not English appear as causal factors directly related to parent dental care habits.

The relationship between satisfaction and frequency of dental visits is strongly negative. This implies that a high degree of satisfaction results in a lower frequency of dental visits. The chain could, of course, be reversed in a behavior-causing-attitude direction rather than as it is shown. This would imply that continued visits to the dentist result in greater dissatisfaction with dental condition. This relationship, though possible, seemed unlikely in that after a point, visits to the dentist would cease. Furthermore, such a finding was not supported by the data obtained on attitudes toward dentists. For this reason, the model was constructed and tested as shown.

The factor labeled "usage of a language other than English" was included because of its implications relative to degree of ethnic identification. This factor appears to have a negative influence on dental care habits. That is, the higher the degree of ethnic identification, the lower the incidence of dental care. This finding is consistent with the findings of Suchman and Rothman (1969).

5.07.00 Conclusions

Similarities exist in the models developed across dimensions of ethnicity and residential groupings.

Both Anglo groups appear to evaluate dental costs as financial barriers relative to socio-economic status. That is, costs may be a barrier only as they relate to a

person's educational and occupational standing. The Spanish-speaking groups have more of an absolute tone as regards the nature of their perceptions of dental costs as a financial barrier. That is, family income, or money available, is more a determinant of whether or not dental cost is a barrier, rather than is socio-economic status.

For both rural groups, financial barriers affect child but not parent dental care. The rural groups' attitude toward dental care for children may be affected largely by a relatively reduced degree of importance given to childrens' teeth problems such that financial considerations play a greater role.

Financial factors, either as family income, socio-economic standing, or as perceived financial barriers appear in all models, as does the factor labeled "symptomatic orientation toward dental care." It appears that these two factors are the greatest determinants of dental care behavior.

Furthermore, in two out of three first year models in which a direct link was postulated between socio-economic status and symptomatic orientation, the relationship was negative. This is consistent with the findings of Haefner, et. al. (1967).

5.08.00 Recommendations

Several recommendations can be advanced based on the findings of this study. It would appear that if changes are to be effected in the dental care habits of the populations studied, ways of manipulating the two most consistent determinants of frequency of dental visits must be found. Short of providing free dental care to all, which might not in itself result in more frequent professional care (Nikias, 1968), education seems to be the most feasible and workable solution.

Among the factors amenable to change as a result of education, is the one called symptomatic orientation to dental care. One vehicle for change could be curriculum efforts in dental health education in the schools with strong emphasis on preventive aspects. More important yet, would be efforts to provide a preventive orientation to mothers, since as the models show, mother's behavior strongly directs child behavior.

Education efforts could also be directed at factors labeled doubt about technical competence of dentists, perceived severity of tooth decay, fatalism and perceived benefits of dental care which appear in one model or another as direct or indirect determinants of dental care practices.

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APPENDICES

A.	Dental Health Care Study Questionnaire	A-1
B.	Procedures for Dental Inspections	B-1
C.	Dental Examination Form	C-1

APPENDIX A

NEW MEXICO STATE UNIVERSITY
EDUCATIONAL RESEARCH CENTER

DENTAL HEALTH CARE STUDY

Card 1

1 ____ Interviewer's Name _____
2 ____
3 ____ Respondent's Name _____
4 ____
5 ____ Address _____

6 ____ Child's Name _____

Date _____

First, I'd like to know some things about your household.

7 ___
8 ___ 1. How many children do you have? _____

9 ___
10 ___ 2. How many of your children live at home? _____

11 ___
12 ___ 3. Other than yourself, how many adults live in your home? _____

4. Who are these adults, what are their ages, and what are their relationships to you?

_____

_____

5.

		Adults Living in the Home	Sex	Age	Marital Status
13 ___ 14 ___	15-1 2345	(Respondent)	F		M-lws M-sep Wi Di Si
16 ___ 17 ___		(Husband)	M		
18 ___ 19 ___ 20 ___	22-1 2345		M F		M-lws M-sep Wi Di Si
21 ___ 23 ___ 24 ___ 25 ___	27-1 2345		M F		M-lws M-sep Wi Di Si
26 ___ 28 ___ 29 ___ 30 ___	32-1 2345		M F		M-lws M-sep Wi Di Si

31 ___

Wi - Widowed Di - Divorced Si - Single

M-lws, Married living with spouse M-sep, Married Separated

33-

6. To what ethnic group would you say you belong?

1 _____ (a) American Indian

2 _____ (b) Mexican-American

3 _____ (c) Anglo

4 _____ (d) Black

5 _____ (e) Other (Specify) _____

I'd like to explain the purpose of the interview. As you know, we contacted you through one of your children in school.

I want to assure you that this is not a test of your knowledge about brining up children, or health, or anything else. There are no right or wrong answers to any of the questions. We're mainly interested in getting facts about some aspects of family life and your opinions about some things that parents do.

Now, I'd like to know about your visits to the dentist.

34- 7. When was the last time you went to a dentist?

1 _____ (a) Within the last year
2 _____ (b) Between 1 and 2 years ago
3 _____ (c) Between 2 and 3 years ago
4 _____ (d) Longer than 3 years ago
5 _____ (e) Never

35- 8. Why did you go to the dentist at that time? (We want to know why you went to the dentist, not what the dentist did when you were in his office).

1 _____ (a) Regular checkup (including cleaning)
2 _____ (b) Toothache
3 _____ (c) Bleeding gums
4 _____ (d) Continuation dental work (fillings, bridgework, gum treatment and so on)
5 _____ (e) Other (Specify) _____

36- 9. How often do you go to the dentist for a checkup?

1 _____ (a) Each 6 months
2 _____ (b) Once a year
3 _____ (c) Every couple of years
4 _____ (d) Only when my teeth hurt
5 _____ (e) Never or very seldom

37- 10. When was the last time (name of child) went to a dentist?

1 _____ (a) Within the last year
2 _____ (b) Between 1 and 2 years ago
3 _____ (c) Between 2 and 3 years ago
4 _____ (d) Longer than 3 years ago
5 _____ (e) Never

38- 11. Why did the child see the dentist at that time?

1 _____ (a) Regular checkup (including cleaning)
2 _____ (b) Toothache
3 _____ (c) Bleeding gums
4 _____ (d) Continuation dental work (fillings, bridgework, gum treatement & so on)
5 _____ (e) Other (Specify) _____

39- 12. How often does (child) go to the dentist for a checkup?

1 _____ (a) Every 6 months
2 _____ (b) Once a year
3 _____ (c) Every couple of years
4 _____ (d) Only when his/her teeth hurt
5 _____ (e) Never or very seldom

40- 13. Some people expect and fear a lot of pain when they go to the dentist for work on their teeth. When you go to the dentist for dental work, how do you feel? Would you say:

1 _____ (a) Extremely afraid
2 _____ (b) Afraid
3 _____ (c) Somewhat afraid
4 _____ (d) Unafraid

41- 14. How often have you avoided going to the dentist because you were afraid he would hurt you? Would you say:

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

43- 16. When you go to the dentist, how do you get there? Do you:

1 _____ (a) Drive your own car
2 _____ (b) Get a ride from a friend or a relative
3 _____ (c) Take a bus or taxi cab
4 _____ (d) Walk

44- 17. How many minutes would it take you to reach the dentist's office? _____
45- _____

46- 18. Do you ever stay home from the dentist because you don't have transportation?

_____ Yes

_____ No

47- 19. Is there usually someone around to take care of your children if you have to go to the dentist?

1 _____ (a) Yes
2 _____ (b) No

Now I am going to read some statements about teeth and I would like to know if you strongly disagree, disagree, agree, or strongly agree.

48- 20. If teeth come in straight, they can still shift and become crooked later.

1 3 _____ (a) Strongly disagree _____ (c) Agree
2 4 _____ (b) Disagree _____ (d) Strongly agree

49- 21. Once you get your permanent teeth, what you eat or drink can't effect, one way or the other, how much your teeth decay.

1 3 _____ (a) Strongly disagree _____ (c) Agree
2 4 _____ (b) Disagree _____ (d) Strongly agree

50- 22. If you have a toothache which goes away by itself after a while, there is no need to see a dentist.

1 3 _____ (a) Strongly disagree _____ (c) Agree
2 4 _____ (b) Disagree _____ (d) Strongly Agree

51- 23. A person can always tell if there is something wrong with his teeth and gums.

1 3 _____ (a) Strongly disagree _____ (c) Agree
2 4 _____ (b) Disagree _____ (d) Strongly agree

Now I want to ask you some questions about dentists.

24. I have a list of 10 words here that are used to describe people. Would you pick out three words that you think best describe the way dentists are? Number these words 1, 2, and 3, showing your first, second, and third choices.

52- Friendly _____
53- Kindly _____
54- Moneygrabbing _____
55- Gentle _____
56- Harsh _____
57- Incompetent _____
58- Unfriendly _____
59- Honest _____
60- Skillful _____
61- Uneducated _____

62- 25. Listen to this statement: "Most dentists are not very good." I want to know what you think about the statement. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
_____ (d) Strongly agree

C3-

26. How often do you feel that the work suggested by a dentist isn't necessary?

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

64-

27. How friendly are <u>most</u> dentists? Would you say they are:

1 _____ (a) Very friendly
2 _____ (b) Somewhat friendly
3 _____ (c) Somewhat unfriendly
4 _____ (d) Very unfriendly

65-

28. How often have dentists been rude to you? Would you say:

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

66-

29. Do you ever feel that doctors are prejudiced against Mexican-Americans?

1 _____ (a) Yes
2 _____ (b) No
3 _____ (c) Don't Know

67-

30. Do dentists ever make you feel that you shouldn't bother them?

1 _____ (a) Yes
2 _____ (b) No

68-

31. Do you ever feel embarrassed about going to the dentist because of the condition of your teeth?

1 _____ (a) Yes
2 _____ (b) No

69-

32. Some people tell us that they don't go to the dentist because they are afraid the dentist might find out that there is something seriously wrong with their teeth or gums. Have you ever felt that way about going to the dentist?

1 _____ (a) Yes
2 _____ (b) No

Sometimes people don't get to the dentist when they want to or feel that they should

70-

33. Do you ever not go to the dentist because he is too busy to see you?

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

71- 34. Do you ever avoid going to the dentist because you feel ill at ease in his office?

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

72- 35. (If R is speaking Spanish) Do you ever avoid going to the dentist because he is not bilingual?

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

73- 36. Does it ever happen that you do not go to the dentist because you feel you can't afford it?

1 _____ (a) Often
2 _____ (b) Sometimes
3 _____ (c) Rarely
4 _____ (d) Never

74- 37. If your dentist felt that it was necessary for you to have $200 worth of dental work done:

1 _____ (a) Could you handle this without too much financial difficulty?
2 _____ (b) Would it be very difficult?
3 _____ (c) Would you not be able to pay?

75- 38. If your child needed $200 worth of dental work done:

1 _____ (a) Could you handle this without too much financial difficulty?
2 _____ (b) Would it be very difficult?
3 _____ (c) Would you not be able to pay?

76- 39. Please tell me what you think about these statements:

A. If a person is destined to lose his teeth, there is nothing he can do to keep them. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
4 _____ (d) Strongly agree

77- B. When a man is born, the success he is going to have is already in the cards so he might as well accept it and not fight against it. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
4 _____ (d) Strongly agree

76- C. People often say that a person may get sick or have an accident as a punishment for doing something bad. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
4 _____ (d) Strongly agree

80- 1

79-

40. Someone once said that prayer is the best medicine when you are not feeling well. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
4 _____ (d) Strongly agree

Card 2
Cols.
1-6 same

7-

41. Common sense goes a lot further in taking care of your teeth than going to a dentist. Do you:

1 _____ (a) Strongly disagree
2 _____ (b) Disagree
3 _____ (c) Agree
4 _____ (d) Strongly agree

8-

42. Have you ever gone to anyone other than a dentist or a doctor for a toothache?

1 _____ (a) No
2 _____ (b) Yes

9-

43. Now, I'd like to know what you think about tooth decay compared with two other things that children (names) age can have--colds and polio. Parents have different ideas of how serious these three are in the life of a child of (names) age. How serious do you think it is for (names) to have each of them?

	Very	Quite	Slightly	Not at all	
10-1234	1	2	3	4	Colds
11-1234	1	2	3	4	Tooth decay
12-1234	1	2	3	4	Polio

44. How likely do you think it is that (name) will get each of these during the coming year?

	Very Likely	Somewhat Likely	Somewhat Unlikely	Very Unlikely	
13-1234	1	2	3	4	Cold
14-1234	1	2	3	4	Tooth decay
15-1234	1	2	3	4	Polio

45. How good would you say the chances are of preventing these?

		Very Good	Good	Fair	Poor
16-1234	A. Colds	1	2	3	4
17-1234	B. Tooth decay (Cavities)	1	2	3	4
18-1234	C. Polio	1	2	3	4

Now I am going to ask some questions about dental appearance for different situations.

19- 46. A. First, how important do you think it is to have nice-looking teeth when making friends? Would you say that it is:

1 _____ (a) Very important
2 _____ (b) Somewhat important
3 _____ (c) Not very important
4 _____ (d) Not important at all

20- B. What about when getting a job? Would you say that it is:

1 _____ (a) Very important
2 _____ (b) Somewhat important
3 _____ (c) Not very important
4 _____ (d) Not important at all

21- C. What about for dating among young people? Would you say that it is:

1 _____ (a) Very important
2 _____ (b) Somewhat important
3 _____ (c) Not very important
4 _____ (d) Not important at all

22- 47. A. I would like to know how satisfied you are with the condition of your teeth and gums and your child's teeth and gums. Let's start with (child's name). Just how well satisfied are you with the condition of his/her teeth? Would you say you are:

1 _____ (a) Very well satisfied
2 _____ (b) Fairly well satisfied
3 _____ (c) Not too satisfied
4 _____ (d) Dissatisfied

23- B. How well satisfied are you with the condition of your teeth and gums?

1 _____ (a) Very well satisfied
2 _____ (b) Fairly well satisfied
3 _____ (c) Not too satisfied
4 _____ (d) Dissatisfied

48. We know that people often do things the way their friends do. We're interested in how much people are alike in their dental care practices.

In your judgment, would you say that <u>most</u> of your friends send their children for regular checkups, or do most send them only when there is need?

24-

1 _____ (a) Most send them for regular checkups
2 _____ (b) Most send them only when there is need
3 _____ (c) Don't Know

25- 49. A. What about medical care in general? When was the last time that a doctor gave you a medical checkup?

1 _____ (a) 0 to 6 months ago
2 _____ (b) 6 to 12 months ago
3 _____ (c) 12 to 24 months ago
4 _____ (d) 24 or more months ago

26- B. How often do you go to the doctor just to get a medical checkup?

1 _____ (a) Every 6 months
2 _____ (b) Every year
3 _____ (c) Every 2 years
4 _____ (d) Other (Specify) _____

27- C. Have you ever had a polio immunization?

1 _____ (a) Yes
2 _____ (b) No
3 _____ (c) Don't remember

There are a few more pages of questions about family life in general, and then we'll be finished.

28- 50. What language do you and your husband speak to each other?

1 _____ (a) English all of the time
2 _____ (b) English most of the time
3 _____ (c) English about half of the time
4 _____ (d) A language other than English most of the time
5 _____ (e) A language other than English all of the time

29- 51. How about your children?

1 _____ (a) English all of the time
2 _____ (b) English most of the time
3 _____ (c) English about half of the time
4 _____ (d) A language other than English most of the time
5 _____ (e) A language other than English all of the time

30- 52. What language does your family use in talking to the grandparents?

1 _____ (a) English all of the time
2 _____ (b) English most of the time
3 _____ (c) English about half of the time
4 _____ (d) A language other than English most of the time
5 _____ (e) A language other than English all of the time
6 _____ (f) No grandparents

53. How often do you and your family participate in community organizations (youth groups, church organizations, Kiwanis, veterans, Rotary, etc.)?

31	32	33	Mother	Father	Children	
1	1	1	1	2	3	Does not belong
2	2	2	1	2	3	Belongs but does not actively participate
3	3	3	1	2	3	Belongs and participates once in a while
4	4	4	1	2	3	Belongs and participates frequently
5	5	5	1	2	3	Belongs and participates most of the time

54. How often do you and your husband attend school functions (PTA meetings, open house, parent days, etc.)?

34	35	Mother	Father	
1	1	1	2	Has never attended
2	2	1	2	Has only attended once or twice
3	3	1	2	Has attended several times
4	4	1	2	Has attended most of the time
5	5	1	2	Has always attended

55. Where do members of your family usually go for the following?

	Las Cruces	El Paso	Mexico	Other (Specify)	
36-	1	2	3	4 _____	Groceries
37-	1	2	3	4 _____	Drugs
38-	1	2	3	4 _____	Clothing
39-	1	2	3	4 _____	Hardware
40-	1	2	3	4 _____	Appliances
41-	1	2	3	4 _____	Furniture
42-	1	2	3	4 _____	Medical Care
43-	1	2	3	4 _____	Dental Care
44-	1	2	3	4 _____	Banking
45-	1	2	3	4 _____	School
46-	1	2	3	4 _____	Gasoline and Auto Service

56. How often does your family eat the following foods? Please tell me whether you have them daily, two or three times a week, weekly, occasionally, or almost never.

		Daily	2 or 3 Times p/week	Weekly	Occas-ionally	Almost Never
47-	Coffee or Tea	1	2	3	4	5
48-	Cocoa	1	2	3	4	5
49-	Soda Pop	1	2	3	4	5
50-	Diet Drinks	1	2	3	4	5
51-	Milk	1	2	3	4	5
52-	Cheese	1	2	3	4	5
53-	Dried Beans	1	2	3	4	5
54-	Tortillas	1	2	3	4	5
55-	Bread	1	2	3	4	5
56-	Pork	1	2	3	4	5
57-	Beef	1	2	3	4	5
58-	Game	1	2	3	4	5
59-	Chicken (any other fowl)	1	2	3	4	5
60-	Fish	1	2	3	4	5
61-	Vegetables	1	2	3	4	5
62-	Lettuce	1	2	3	4	5
63-	Tomatoes	1	2	3	4	5
64-	Chiles	1	2	3	4	5
65-	Carrots	1	2	3	4	5
66-	Fruit	1	2	3	4	5
67-	Eggs	1	2	3	4	5
68-	Cookies	1	2	3	4	5
69-	Cake	1	2	3	4	5
70-	Candy	1	2	3	4	5
71-	Rice	1	2	3	4	5
72-	Other (specify) _____	1	2	3	4	5

_____

_____

_____

_____

What do you think about the following questions? Please answer yes or no.

Would you object to the following persons having a religion different from yours?

	57. a relative	58. a friend	59. a neighbor
73- 1	____ (a) yes	74- 1 ____ (a) yes	75- 1 ____ (a) yes
2	____ (b) no	2 ____ (b) no	2 ____ (b) no

Would you object to the following persons having a first language different from yours?

	60. a relative	61. a friend	62. a neighbor
76- 1	____ (a) yes	77- 1 ____ (a) yes	78- 1 ____ (a) yes
2	____ (b) no	2 ____ (b) no	2 ____ (b) no

80-1 Card 3
Cols. 1-6 same

63. Do you subscribe to any national news magazine (Time, Newsletter?)

7-1 8- ____ (a) yes (Specify) _____
2 ____ (b) no

64. Do you subscribe to any national newspapers (National Observer, Christian Science Monitor, Wall Street Journal)?

9-1 10- ____ (a) Yes (Specify) _____
2 ____ (b) No

65. Do you receive any professional publications?

11-1 12- ____ (a) Yes (Specify) _____
2 ____ (b) No

66. Do you watch a local news TV broadcast?

13-1 14-15 ____ (a) Yes (Which one(s)? _____ How often _____
2 ____ (b) No

67. Do you watch national news on TV?

16-1 17-18- ____ (a) Yes (Which One(s)? _____ How often _____
2 ____ (b) No

68. Do you subscribe to a daily newspaper?

19-1 20-21- _____ (a) Yes (Which one(s)?_____

2 _____ (b) No

What do you think prevents people from going to the dentist?

22- 69. How many years of school did you have?_____

23-

24- 70. How many years of school did your husband have? _____

25-

26- 71. Do you work outside your home?

1 _____ (a) Yes

2 _____ (b) No

27- If yes, what type of work do you do?_____

28- _____

29- 72. (If husband lives in home, ask this question) Is your husband presently employed?

1 _____ (a) Yes

2 _____ (b) No

30- If yes, what type of work does he do? _____

31- _____

32- If no, what type of work has he done most often? _____

33- _____

34- 73. The next question is about family income. Please remember that the information you give is completely confidential. Please tell me your total family income, last year, before any deductions.

1 _____ (a) Under $3,000

2 _____ (b) $3,000 – $4,000

3 _____ (c) $4,000 – $5,000

4 _____ (d) $5,000 – $7,500

5 _____ (e) $7,500 – $10,000

6 _____ (f) $10,000 – $12,500

7 _____ (g) $12,500 – $15,000

8 _____ (h) $15,000 – $20,000

9 _____ (i) $20,000 or more

That's the end of the questions. Thank you for giving your time. We hope that eventually we can put this information to work advising families. Do you have any questions that

35- you would like to ask me?

36-

APPENDIX B

Procedure for Dental Inspections

Permanent Teeth

DMF = Decayed, Missing and Filled
N = Normal (A sound tooth free of pathosis)

D - Decayed

1. A tooth shall be considered carious:
   a. When the lesion is clinically obvious
   b. If the opacity of the enamel indicates underlying caries
   c. If the end of a dental explorer can be made to penetrate into soft yielding tooth structure
   d. In the case of pits and fissures, when the explorer catches, supports its own weight, and meets resistance when it is withdrawn
2. A tooth which is both Filled and Decayed shall be considered as DECAYED ONLY. It is not to be counted twice.

M - Missing

1. A tooth shall be considered missing:
   a. When decayed and unquestionably indicated for extraction
   b. When extracted

F - Filled

1. A tooth shall be considered filled:
   a. When there are no open carious lesions and all past caries have been restored
   b. When having defective restorations
   c. When containing temporary restorations

NOTE: Teeth shall not be recorded as D.M.F. when:

Teeth missing or restored as a result of a reported traumatic injury, (Normal)

Teeth have been extracted for orthodontic reasons or congenitally missing. recorded as a dash (-)

Teeth missing due to normal eruption pattern. recorded as a dash (-)

Children wearing non-removable orthodontic appliances involving more than one permanent tooth are not included in the study.

Criterion Used for Partially Erupted Teeth

Anterior teeth and bicuspids shall be considered as erupted if the length exposed is equal to the width of the anatomical crown.

Second and third molars shall be considered erupted if as much as two-thirds of the occlusal surface is exposed.

If a permanent and deciduous tooth are both present in a single tooth space, only the permanent tooth shall be inspected provided it is erupted to meet criteria mentioned above.

Deciduous Teeth

def = decayed, indicated for extraction and filled

d - decayed	Same criterion used for "Decayed" in Permanent Teeth
e - indicated for extraction	Indicated for extraction due to caries
f - filled	Same criterion used for "Filled" in Permanent Teeth

Russell's Periodontal Index*

Criteria for the Periodontal Score

Score

0	Negative.	There is neither overt inflammation in investing tissues nor loss of function due to destruction of supporting tissues.
1	Mild Gingivitis.	There is an overt area of inflammation in the free gingivae, but this area does not circumscribe the tooth.
2	Gingivitis.	Inflammation completely circumscribes the tooth, but there is no apparent break in the epithelial attachment.
4	(Not used)	
6	Gingivitis with Pocket Formation.	The epithelial attachment has been broken and there is a pocket (not merely a deepened gingival crevice due to swelling in the free gingivae). There is no interference with normal masticatory function, the tooth is firm in its socket, and has not drifted.

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Score

8 Advanced Destruction with loss of Masticatory Function. The tooth may be loose; may have drifted; may sound dull on percussion with a metallic instrument; may be depressible in its socket.

Rule: When in doubt, assign the lesser score. Areas of retained roots are scored as missing teeth.

Gingival Inflamation and Plaque Measurement

The section of the form marked GING. INFL. will be used to record the scores for gingival inflammation according to the system developed by the Division of Dental Health.* The facial (F) and lingual (L) gingival tissues of the six designated teeth (3, 8, 14, 19, 24, and 30) will be scored separately for gingival inflammation. Scores 0, 1 and 2 are based principally on color change according to the following criterion:

0 - No inflammation - gingiva adjacent to the tooth surface being examined is pale pink in color and firm in texture. Swelling is not evident and stippling can usually be noted.

1 - Inflammation not encompassing all tissue adjacent to the tooth surface (including papillae) - gingiva is a definite red or magenta color.

2 - Inflammation encompassing all tissue adjacent to the tooth surface (including papillae).

The section of the form marked PLAQUE MEAS. will be used to record the scores for plaque according to the system of Podshadley and Haley.** The teeth surfaces examined are 3F, 8F, 14F, 19L, 24F, and 30L. A mouth mirror examination of selected teeth is made after the patient has been given an erythrosin disclosing wafer (FDA No. 3) which stains the dental plaque a dark pink.

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*Suomi, J. D., Greene, J. C., Vermillion, J. R., Chang, J. J., and Leatherwood, E. C.: The Effect of Controlled Oral Hygiene Procedures on the Progression of Periodontal Disease in Adults-Results After Two Years. J. Peridontics, 40:416-42 - July, 1969.

**Podshadley, A. G. and Haley, J. V.: A Method for Evaluation Oral Hygiene Performance. Public Health Reports, 83:259-264, March, 1968.

A Classification of Dental Manifestations of Ingested Fluoride Based on Esthetics

Normal	-	Average in color and form with no evidence of fluorosis
Desirable	-	Having a creamy translucence or whitening of the enamel due to fluoride intake and considered by the examiner to be as beautiful or more so than the "normal" teeth. Evidence of slight fluorosis was considered desirable as an indication of the increased caries resistance associated with optimal fluoride intake
Borderline	-	Teeth with so much whitening or slightly stained to the point of being conspicuous in appearance and possibly detracting in esthetic value
Objectionable	-	Teeth with altered form, pitted or stained enough to definitely impair the appearance of the individual

These definitions correspond approximately with Dean's classification in the normal range. Desirable would include a few normal, most questionable, very mild and some mild fluorosis cases. Borderline would include some mild and moderate cases, and objectionable would include most moderate and all severe cases of fluorosis.

This classification was devised to better reflect the public health significance of the effect of fluoride adjustment on dentition esthetics. It might be noted at this point that it was the clinical impression of the 5 examiners that teeth in the desirable and borderline categories very frequently show a more clinically desirable tooth form, i.e., more rounded cusps and shallower, less tortuous fissures.

Angle's Classification of Malocclusion

Class I. Mandibular dental arch and body of the mandible are in normal mesio-distal relation to the maxillary arch. The mesio-buccal cusp of the maxillary permanent first molar occludes in the buccal groove of the mandibular permanent first molar when the jaws are at rest and the teeth are approximated in centric occlusion. The disharmony is confined to the teeth alone.

Class II. Mandibular dental arch and body of the mandible are in distal relation to the maxillary arch by half the widty of the permanent first molar or the entire widty of a premolar. The mesio-buccal cusp of the maxillary permanent first molar occludes in the space between the mesio-buccal cusp of the mandibular permanent first molar and the distal aspect of the buccal cusp of the second premolar.

Class II. Division 3

A Class II occlusion in which the maxillary incisor teeth are in labioversion.

Class II. Division 1. Subdivision

A Class II, Division 1 occlusion in which the distal relationship of the mandibular teeth, dental arch and body of the mandible is unilateral, the opposite side being in normal mesio-distal relationship as evidenced by the normal occlusion of the permanent first molars and mandibular relationship on that side.

Class II. Division 2

A Class II occlusion in which the maxillary incisor teeth are in linguoversion.

Class II. Division 2. Subdivision

A Class II, Division 2 occlusion in which the malocclusion is unilateral only.

Class III. Mandibular dental arch and body of the mandible are in bilateral mesial relationship to the maxillary arch. The mesio-buccal cusp of the maxillary permanent first molar occludes in the interdental space between the distal aspect of the distal cusps of the mandibular permanent first molars and the mesial aspect of the mesial cusps of the second mandibular permanent molars.

Class III. Subdivision

Class III occlusion in which the malocclusion is unilateral only.

APPENDIX C

DENTAL EXAMINATION FORM

Name _____ Age _____ Sex _____ Birthplace _____

Race _____ City _____ Length of Residence _____ Examiner _____

(1 is upper rt. 3rd molar) (9 is upper left central)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DMF or def															
Pd															

(25 is lower rt. central) (17 is lower left 3rd molar)

	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18
DMF or def															
Pd															

Ging.	3F	8F	14F	14L	8L	3L
Infl.	30F	24F	19F	19L	24L	30L

Plaque Meas.	3F	8F	14F	14L	8L

Fluoresthestics

Normal _____ Desirable _____

Borderline ____ Objectionable _____

OCCLUSION

____ Class I (No Treatment)
____ Class I (Treatment Ind)
____ Class II (No Treatment)
____ Class III (No Treatment)
____ Class III (Treatment Ind)

PROTHESIS

____ None
____ Upper (fixed)
____ Upper (removable)
____ Lower (fixed)
____ Lower (removable)
____ Upper full
____ Lower full

LESIONS

Tongue ____
Mucosa ____
Palate ____
Gingivae ____
Floor of Mouth ____

REMARKS

SUMMARY

Permanent Teeth				Deciduous Teeth			
D	M	F	DMF	d	e	f	def

Periodontal Status
--- ÷ number of teeth= _____

Gingival infl. ____ ____
--- ÷ tooth surfaces ---
Plaque Measurement
--- ÷ tooth surfaces ---

Number of Prothesis ____
Number of Lesions ____
Orthodontic Classificatic
_____